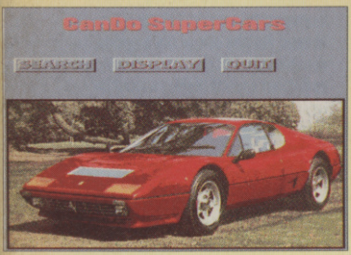
Issue 141 • 20th July 1991 • 88p

TONS OF
TIPS
FOR YOUR
MACHINE
see pages:
16-25, 31,
32-33,
44-45...

NEW COMPUTER EXPRESS

FIRST NEWS • FIRST REVIEWS • BEST BUYS • YOUR WEEKLY GUIDE

AMIGA


CanDo SuperCars
SEARCH
DISPLAY
QUIT

CANDO 1.5
Create your own
Amiga applications

ATA

CON news

File
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Special
Colour
Mail
Send Mail...
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500 Mb HD

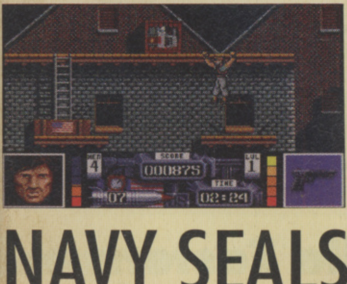
THE MACINTOSH GETS INTO BED WITH BIG BLUE!

Full astonishing story pages 6&7

PLUS: MEGADRIVE MYSTERY!

Sega & JVC's secret new console – what could it be?

GAMES



NAVY SEALS
Ultra-hot or just wet?

THE PRICE OF FAILURE!

DIXONS CUTS THE GX4000 & C64GS TO RIBBONS
– IS THIS THE END OF THE LINE? Turn to page 5

Future PUBLISHING
Your guarantee of value

20 C.h.9. ⑫

Frontend

Frontend – a walk on the wild, wobbly and wholly wonderful side of computing

WINCHESTER WANGING

A hard disk throwing competition is one of the events at the Worldcon '91 inaugural International Bulletin Board Convention to be held in Aldenham, Herts, later this month.

Participants have to throw a hard disk as far as they can in order to win the applause and respect of their Comms-comrades. No mention of a prize other than this esteem has been made by the organisers, so let's just hope no-one slips any discs taking part in the contest.

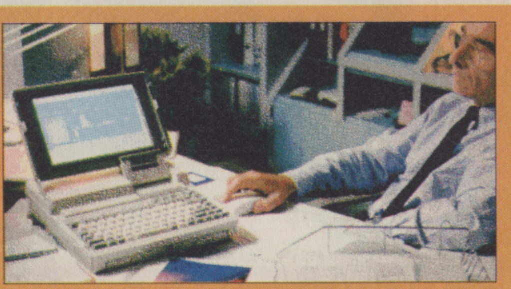
It won't be all work though, there will also be a charity banquet to restore lost energy.

Sysops and bulletin board system (BBS) users, who would only normally meet digitally will converge on the convention to see everything from demonstrations of BBS software to lectures by leading industry figures. Countries such as Australia, the United States and of course dear old Blighty will be represent.

The event will be held between 24 and 28 July at Hatfield Polytechnic's Wall Hall Campus in Aldenham, Hertfordshire (near Watford).

To find out more, download the booking information from Barnabus BBS on 0708 670068 or, alternatively, Fidonet File Request WORLDCON.ZIP using the following: 2:2/999@Fidonet.

For even more data (this time verbal), call the 24 hour Worldcon information line on 0426 928055. ■



• Liquid crystal displays in laptops are one of the many hi-tech inventions making huge profits in countries outside of the UK.

Recession hits hi-tech

Hi-Tech inventions from the UK are being manufactured abroad as the recession bites says Gordon Brown, trade and industry spokesman for Labour.

He cited examples in many areas of technology and pointed out that a single British invention, magnetic resonance imaging, was earning a share of a £600 million annual market for companies in the US, Germany and Japan.

Other UK ideas that are increasingly earning billions abroad are the use of fibre optics, the videotex information service and liquid crystal displays used in laptop computers, consumer appliances and digital watches.

To put a stop to this Brown has called on the Government to reduce interest rates and investment incentives for new hi-tech companies. ■

Chess pains for Gary?

The cerebral sporting occasion of the decade is all set to take place in 1994. That's when world chess champ, Gary Kasparov renews his battle with the latest version of the Deep Thought chess engine.

And according to Murray Campbell, the man who programmed *Deepy*, the computer is all set to rook the Russian genius. Putting together the computer to beat the grandmaster could be just as difficult as playing him. The new machine will use 1,000 single chip processors that can analyse one billion positions per second. Not even Garry Kasparov can move that fast.

In spite of the new challenge, Garry's already two up in the series – he beat the first Deep Thought machine twice in 1989. Those wins were for the sake of mankind, he said. Will the machine get its revenge in 1994? Or will Kasparov's carbon-based instincts win through? We wait with baited breath. ■

GET REAL! • GET REAL! • GET REAL! • GET REAL! •

WELSHMAN ABROAD

SAM Computers' software boss Colin Jordan confirmed that the SAM was selling more units abroad than in the UK. The SAM export drive is taking on in countries such as Portugal and Spain and making eastern bloc inroads in Poland and Czechoslovakia

ON COURSE TRAINING

Japanese owned UK computer giant ICL is leading the way with computer training courses based on the results of a US study entitled Management in the 90's.

The sell out two day courses are designed to introduce senior management and executives into the ways that technology and computing can enhance and improve the way that they manage their companies.

The courses are being held at ICL's Hedsor Park Training Centre and aim to present IT awareness in a pleasant environment. ■

GULF WAR PC/TV THEFT

Iraqi soldiers busy looting Kuwait during the Gulf War spent hours staring at computer screens which they mistook for televisions.

Confused troops stood for hours in a car showroom which had Lotus *1-2-3* running on a PC.

This wasn't enough to deter their acquisitorial natures and reports state that the Iraqis managed to carry away at least 80 per cent of the Kuwaiti Government's computers.

As well as the desktop PCs, mainframes and minis have taken the journey back to Iraq. Alas for the micro liberators, computer giant IBM will not be offering servicing and technical aid to machines which could allegedly have been damaged on the long sand-blown journey. ■

• Saddam 's soldiers knew so little about IT that they thought Lotus 1-2-3 was a television programme.

Games get word power

WIZARDS & WARRIORS
BIONIC COMMANDO

• The Book of the game. Nintendo games in paperback form for literate gamesters who wish to continue with favourite games during power cuts.

If you thought that the book of the film was a crazy idea, put away your joystick and settle down to the book of the computer game.

Worlds of Power is a series of books based on Nintendo video games.The £1.95 paperbacks follow the off-screen lives of the heroes from the games, and at under around £2 are much cheaper than the cartridges.

The first two titles, published on 19 July are *Wizards and Warriors* and *Bionic Commando* based on the games of the same names. More information from Publisher Scholastic Children's Books on 071-284 4474. ■

Parallel power gets £34m cash handout

A massive injection of capital from both the Government and industry could potentially push parallel processing from the backroom to the desktop in lightning time.

The four year plan that involves a £34 million share out between universities at Edinburgh, Southampton, Oxford and London will be sink or swim time for developers. The cash runs out in 1995 and after that, the projects will have to generate their own funding.

Greg Wilson, spokesman for Edinburgh University, echoed the sentiments of the academic world: "This is long overdue. If something like it had been set up in 1986 then UK company, Inmos wouldn't be owned by France-based multinational, SGS-Thompson". ■

Sex for all • Disk throwing champions • Middle Eastern ma

A HARD DAY'S FIGHT

The on-going saga of Beatles versus Apple Computer (see *Express* 105) grinds on through the courts.

The three remaining mop-tops, with Yoko Ono, are suing the computer company over the use of the Apple name and logo. The litigation has been dragging on since 1987.

Last week the three extant Beatles reformed for the 108th time since October 1990, but instead of facing the screaming fans of the 60's, there were screaming lawyers in the 90's.

The case revolves around a contract between the two parties which was set-up in 1981. Apple Computer drew up an agreement with Apple Corps, the company set up by the Beatles' to represent their interests in various medias, for certain rights to the Apple trademark and name. Guidelines were worked out separating their respective commercial interests.

Apple Computer was not allowed to use the logo in musical applications, while Ringo, Paul, George and Yoko were not allowed to use the Apple badge if they ever decided to build computers.

All was well until 1987 when Apple Computer decided to market MIDI devices with the offending logo to the fore. This wasn't acceptable to the Beatles' company, so in 1989 it issued a writ for breach of contract and sought an alleged $250 million compensation.

The 1989-90 hearing was supposed to last 12 weeks, but now appears to have overrun. With no agreement in sight it looks as both sides will have to stew in their own juices until they're all 64, if not longer. ■

• Question: What do you get if an Apple cart containing $250 million is overturned? Answer: Hundreds of happy lawyers. The Beatles and Apple are at it again!

COMPUTER CALAMITIES

Send your tales of titilating technology to Computer Calamities, *New Computer Express*, 30 Monmouth Street, Bath BA1 2BW and we'll pay a fiver for each one printed.

This weeks gem comes from Gordon Smith of Salmesbury. He says: "In the 1960s, British Aerospace had a prototype computerised attack bomber called the TSR2. BAC boffins had put decades of work into this flying death dealer only to have it scrapped as being too advanced and not what anyone wanted. No sooner had the scrap merchants cutting torch cooled on this now billion pound pile of junk, than demand for a computerised flying battle platform soared which is more than can be said for the TSR2. Back to the drawing board and in the 1970s BA designed the Tornado and Jaguar, which owe more than a thank you to their dissassembled predecessor." ■

GET REAL! • GET REAL! • GET REAL! • GET REAL! •

BASH

A US company specialising in microprocessor controlled garage doors installed one in the house of Hiram Wackenczec II in Texas. Unfortunately, they chose the same operating frequency as the nearby traffic lights. Mr Wackenczec is suing the company for the damage to his car and door when the lights changed and the door crushed his Buick.

Friendliest BB steps over the line

Pornographic material that would cause chaos with censors is freely available to computer enthusiasts who ring a Bulletin Board in the US.

The Ohio based 'Rustie and Edie's Friendliest BBS in the World' offers 24,000 programs, stories, pictures and other pornographic material. This accounts for around 40 per cent of the 60,000 downloadable files available.

The middle-aged couple run the huge on-line system with 100 telephone lines, and a power computing system big enough to run a medium sized company. Although it's simple enough to access this BBS and download pornography, anyone doing so in the UK runs the risk of prosecution as it is illegal to transmit pornography across BT's lines. ■

• Well what would Mary Whitehouse think? She would surely get on the line herself, but it would be to the censors and not the bulletin board!

SHOOT FROM THE LIP

A spokesman for the WordPerfect Corporation described the change from a function key to a graphically driven versionof the Wordperfect word processor as "a little painful," and added that: "There might be some cognitive dissonance."

And we're sure that he's right too, but we wish he'd explain what he means in terms that the majority of his users can understand

Champion Luddite and would-be novelist Bill Mearly was asked at a recent computer show, which word processor he would be using on the brand spanking new laptop given to him by a multinational which would rather remain anonymous. He snarled: *"Words are for flowing, not processing I shall give this damn thing to my accountant and he will use it as an adding machine, which I'm sure is a job it will do admirably."*

Can anyone recommend a good flowing spreadsheet for his accountant?

***"I've sold the Amiga for three years now. I was excited about CDTV, but not sure how to display and market it. Trust Commodore to come up with a solution. They won't let me sell it. Isn't it good to deal with a company that rewards loyalty with simple solutions to complex problems?"* – An independent computer retailer wishing to remain anonymous to ensure that his supply of Amigas doesn't dry up. ■**

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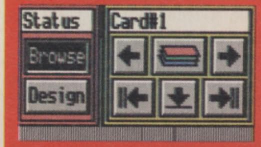
CanDo 1.5 is here, but does it live up to its name? – page 55



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• Ready, aim, fire! Mirrorsoft is targeting its Falcon – The Classic Collection *package at those Amiga and ST owners yet to experience the best-selling flight*

Classic sim collection

For those 16-bit owners that missed out on Spectrum Holobyte's best-selling *Falcon* flight simulator, Mirrorsoft has released *Falcon – The Classic Collection* which includes the original program and its two mission disks..

In total 36 missions are now available, offering the armchair pilot everything from basic flight training to participating in live battlefield scenarios.

***Falcon – The Classic Collection* will be published on the Spectrum Holobyte/ Mirrorsoft label in September for the Amiga (£34.99) and Atari ST (£30.99). For more info, call Mirrorsoft on 071-928 1454. ■**

• Carrier Command *is one of the vector graphics-based games on Elite's new Virtual Reality disks.*

Virtual vector action packs

Elite has put together two software compilations that feature some of the best vector-graphic-based games for the Amiga, Atari ST and PC.

Virtual Reality Volume 1 consists of *Midwinter, Carrier Command, Stunt Car Racer, Starglider 2* and *International Soccer Challenge*. It is priced at £29.99 for the ST and £34.99 for both the Amiga and the PC.

The second compilation, *Virtual Reality Volume 2*, comprises *Virus, Sentinel, Weird Dreams, Resolution 101* and *Thunderstrike*. This costs £25.99 for the ST while the Amiga and PC versions are £29.99. ■

'Multimedia megadrive' under new joint development

SEGA AND JVC IN CD-ROM DEAL

Hot on the heels of the Nintendo and Philips CD-I announcement, Sega and JVC have joined forces to develop an as yet unamed games machine based on CD-ROM technology.

It is scheduled to be released next spring and is to be priced at around 100,000 yen (£450). Sega is predicting sales of over 200,000 units in Japan alone. The company will release the system in the US a few months after it goes on sale in Japan. A European release is expected sometime in 1993.

The announcement follows Sega's recent launch of a CD-ROM drive for its Megadrive games console, which is now on sale in Japan. The Mega-CD sits beneath the Megadrive and runs standard 5-inch compact discs containing software specifically developed for the machine. It is expected to arrive in Europe in the first half of next year, priced at around £199.

Not much is known about the new machine though the link with JVC suggests it will be equipped with sophisticated audio-visual features. What these are at the moment is not known, but it has been widely reported that JVC's technology will allow for very high quality pictures and sound.

The console will be produced by Sega, based on its Megadrive and combined with JVC's CD-ROM drive and audio-visual technology. At the moment further details are sketchy.

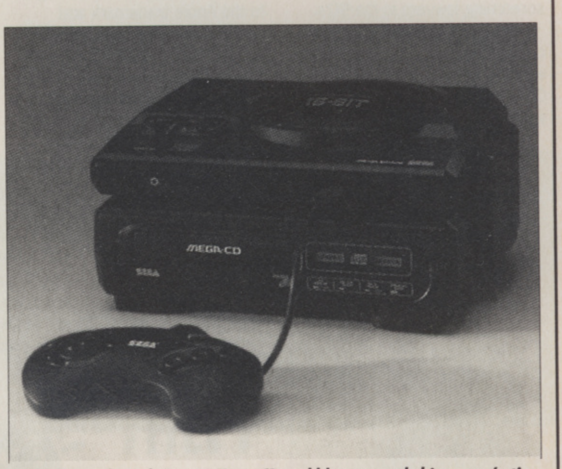
However, the new machine will be coming out at around the same time that CD-I machines will start to appear. In order to compete with these machines something special is needed.

The JVC link would seem to suggest some form of multimedia machine. JVC is a prominent player in the TV, hi-fi and video markets, and to be involved with a product that could slide into these product lines could be appealing to the company.

JVC's technology will allow for high quality pictures and sound

JVC was also the company behind the VHS video standard and succeeded in promoting it over the technically-superior Beta standard from Sony. In terms of audio-visual technology it is known to be developing a wide screen television.

JVC has some ties with Matsushita which is a prominent supporter of CD-I, so the possibility of its drive for Sega being a bit more than an ordinary CD-ROM drive isn't outside the realms of possibility.



• Only just released, Sega's Mega-CD could be superseded in a year's time by a new CD-based games machine from Sega and JVC.

However, there is one major argument against the idea that CD-I technology is to be used in the machine: price. The £450 price tag is far less than other companies' CD-I products are expected to cost.

If this is the case, it is more likely that the Sega-JVC machine will simply incorporate JVC's audio-visual technology. Speculation on what this could be ranges from digital reproduction of sound and music, to even surround sound processing.

In terms of visuals something could be developed along the lines of JVC's wide-screen television technology, but since the machine is expected to plug into home televisions nothing too fancy can be expected.

As a consequence, Sega could just be trying to achieve as stable and clear a picture as possible on normal televisions. Because the machine is expected to sell in countries with different television standards, this is a likely development as anything more advanced would probably be limited to only one standard.

As more facts come to hand *Express* will be first to tell you about them. ■

Earl Weaver strikes again

Hard hitting baseball fans will soon be able to score home runs to their heart's delight with *Earl Weaver Baseball II System.*

Electronic Arts has announced the three-part package which consists of *Earl Weaver Baseball II, The Commissioner Disk II* and the *1990 MLBPA Players Statistics and Manager Profiles Disk.*

***Earl Weaver Baseball II* is an advanced baseball simulation for the PC featuring unlimited camera views and full screen graphics showing the players in all their glory. It also features an element of management skills.**

Improved statistical displays and a baseball physics model recreate the atmosphere of live baseball all displayed in 256 colour MCGA and VGA graphics.

***Earl Weaver Baseball II* will be available for the PC in August for £29.99, while availability and pricing of *The Commissioner's Disk II* and the *1990 MLBPA Player Statistics and Manager Profiles Disk* have yet to be announced. To find out more, call EA on 0753 49442. ■**

Instant Replay
Bender 1.58
60 Pitches th
Traynor .337
Bases loaded

• Safe! Earl Weaver Baseball II captures in 256 colour PC graphics all the moments those people across the Atlantic enjoy so much.

ST's dirty half dozen

ScotSoft International has packed 7Mb of Atari ST public domain software on to six disks.

A wide variety of programs have been included, such as music utilities, disk cataloguers, word processing, games, animations and virus killers – there is basically a bit of everything.

In total, ScotSoft has managed to pack 58 programs on to the six disks which you can buy as a complete bundle for the bargain price of £9.99

To find out more, call ScotSoft International on 031-441 7952. ■

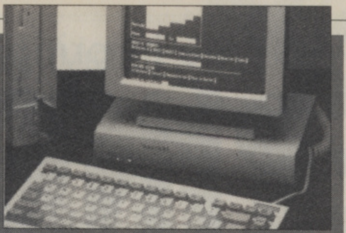
Cutting out key confusion

The Silverbird keyboard overlay for the Amiga is designed to cut out confusion over which keys you need to press in various programs.

Simply a cardboard cover which fits over all Amiga keyboards (except the A1000's), it allows you to note down clearly which keys carry out what functions, which is useful if you have a number of similar programs which use different keys for the same operations.

The overlays are available in packs of five for £6.20. Phone 0525 52614 for further details.

Bookish PCs



• *Forget about putting technical books on your bookshelf to impress your friends. Stack up a couple of Booksize PCs instead.*

Walters has launched a range of book-sized desktop PCs that provide high levels of performance, but take up a quarter of the size of standard desktop systems.

The new range includes both 16MHz 80286 and 16MHz 80386 models. However, they measure only 10x8x1.75-inches and weigh between 6 and 8 pounds. Basic configurations include a 40Mb hard disk, 1Mb of RAM (expandable to 4Mb) and a 3.5-inch 1.44Mb floppy drive.

Other configurations vary in the type of keyboard supplied (82 or 102 keys), the type of video adaptor (everything from monochrome graphics, mono VGA and colour VGA) and the type and size of monitor (9- or 12-inch mono or colour). For workstation users a diskless version is also available which comes with an Ethernet card.

Prices start from £440. For more information contact Walters on 0494 32751. ■

GX4000 and C64GS machines dumped by Dixons

CONSOLES HIT ROCK BOTTOM

by Rod Lawton

Major high street electrical chain Dixons is dropping the Amstrad GX4000 console following disastrous lack of sales for the machine.

While stocks last, the machine will be advertised for a mere £19 – a fifth of the original price.

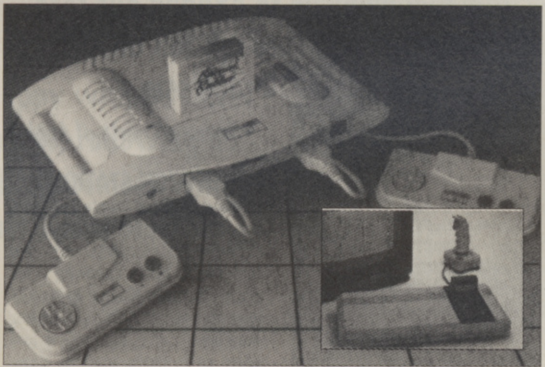
Dixon's buying director, Alan Dickinson, said: "We're getting out of it. It certainly fell short of our expectations."

Reports suggest that as few as 20,000 GX4000 machines have been sold – only a small fraction of Amstrad's target. Amstrad is blaming the "recession" for the poor sales. However, Sega and Nintendo consoles have sold massively during the same period.

POOR SUPPORT

Many industry insiders blame the console's failure on the very poor software support Amstrad provided for the machine. Twelve games were promised by Christmas 1990, but only recently has this target been met.

Amstrad is not alone, however, in having its fingers burned by a late entry into an already mature 8-bit console market. Dixons is also dropping the Commodore C64GS console. Both machines have failed to make any impression on a market dominated by the Sega Master System and the Nintendo Entertainment System – machines supported by huge software bases and polished promotional campaigns.



• ***While stocks last Dixons is selling the Amstrad GX4000 for £19 and the C64GS from Commodore (inset) for £29. Both have been sales flops.***

Commodore's machine entered the market from a weaker position than the Amstrad. While the latter boasts enhanced hardware to support better graphics and sound than that of the CPC machine on which it was based, the C64GS is identical in performance to the C64 micro – which itself has a cartridge port built-in.

GROUNDED

Commodore is philosophical: "There was certainly demand in the trade for a console, but the C64GS never really got off the ground," said a spokesman.

The company nevertheless claims the console has boosted support for the C64, a machine it is now trying to push at a new, lower price as a kind of console-with-a-keyboard.

Amstrad can claim no such victory. Its recent and costly relaunch of the fading CPC range has failed as yet to make any impression on the market. ■

Sub-£1,000 386 released

Escroe has broken the £1,000 barrier with the release of its new range of 386 machines.

The 33MHz 80386 computer equipped with a 64K cache, 4Mb of RAM, a 40Mb hard disk and a VGA colour screen costs £999.

Escroe can be reached on 0277 200555. ■

Sneak preview scanner

A page preview option is one of the major features of the new K5200 Windows Edition scanning system from Kurzweil Computer Products.

With page previewing, scanning any part of a page is made easier as the whole page is shown on screen and text and images can be cut and saved. And because Windows 3.0 lets other programs run in the background, a document can be scanned while the user works on another application.

The K5200 Windows Edition comprises the K5200 scanner and the new Windows software. The scanner comes with Intelligent Character Recognition (ICR) software that recognises features that make an individual letter unique.

Available now, the system costs £15,500. Call Kurzweil on 0734 668421. ■

• ***The Windows edition of Kurzweil's K5200 scanner enables an image to be scanned while the user is working on something else.***

NIBBLES

Batch builder

Hyperkinetix's *Builder* is a batch compiler for the PC that works with DOS batch files, extending the batch language by over 140 commands. Control structures and other built-in functions are added to DOS, while at the same time the files remain compatible with the normal batch language.

Utilities are included that perform common disk and file tasks, controlling keyboard inputs and date and time functions. An integrated full screen text editor, on-line help and drop down menus are included with the compiler.

Contact Scott Ellis Systems on 071-839 4572.

VDU hazard facts

City Centre has updated its *VDU Hazards Factpack* which includes information on eyes and vision, repetitive strain injury (RSI) and stress – common ailments of sitting in front of a VDU screen. Information on the effects of VDU radiation on pregnancy is also included.

Details of the symptoms of these problems are covered as well as possible solutions.

The VDU Hazards Factpack is available for £3 from City Centre, 32/35 Featherstone St, London EC1Y 8QX.

Ribbons revived

You can extend the life of your printer ribbon simply by spraying WD-40 lubricator inside your printer cartridge and leaving it overnight, according to its manufacturer the WD-40 company. WD-40, most famous for getting cars started on damp mornings, causes the particles of ink to redistribute themselves from the unused areas at the edges of the ribbon to the middle strip where the ink is needed, making the ribbon usable again, the company claims.

Mother power

Osmosis Technologies has become dealer for the Soyo range of motherboards which come in a number of different 80386 and 486-based models.

The basic model is a 25MHz 80386 motherboard which can take up to 8Mb of SIMM memory on the board and costs £323. The next model up is based on the same processor but has a 64K cache and can take up to 64Mb on board, all for £400.

Top of the range is a 33MHz 486 board with a 256K cache and can take up to 64Mb on board. It costs £1204.

Telephone 0784 465670.

Apple and IBM agree in principle to the biggest joint venture in the

SLEEPING WITH THE

The news that IBM and Apple have seemingly buried the hatchet without bloodshed, has been met with mixed feelings in the computer world. On the one hand there is an air of expectancy – will they produce a new machine with PC compatibility and an Apple front-end? Or will the partnership suffer from corporate in-fighting and end in acrimonious court cases? And where does the agreement leave Intel, Microsoft, and Motorola? *Express* takes a closer look at the deal which could lead to the most substantial changes in personal computing for 20 years...

In the future, July 1991 will be seen as an epoch in the history of personal computing. This is the month in which IBM and Apple Computer joined forces.

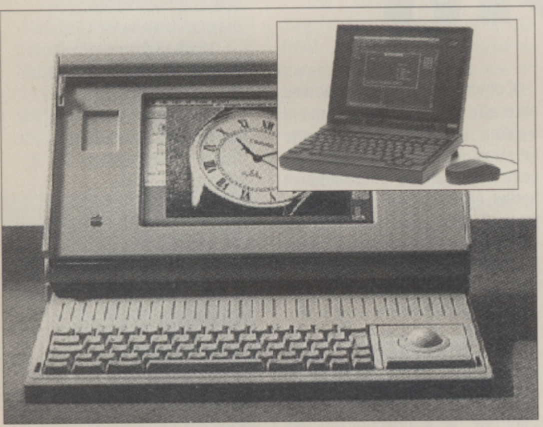
No new machine will be launched and no technical breakthrough will be made - at least not for two or three years. The month is made historic by an agreement in principle signed in Armonk, New York.

Sources in the States have named five senior Apple and IBM executives, ranging from division presidents to vice presidents and senior scientists, who were involved with the initial negotiations.

The situation as it now stands, in the new accord between two of the biggest personal computer makers in the world, is that a letter of intent has been signed. While the fine details are still kept close to the respective chests of the companies involved, the main points have been leaked. The letter covers four major points of joint interest. These are detailed in the box below, but the essential elements are as follows:

1) The creation of a co-owned but independently run software subsidiary.

2) IBM compatibility for the Mac to be worked on in terms of networking and communications software and hardware.



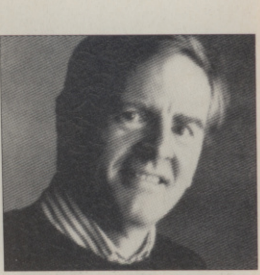
• Apple's Macintosh laptop and IBM's latest notebook. The former uses a Motorola processor, the latter uses Intel's chips. By 1993 will these differences be irrelevant as both companies use the same PC Power RISC-chip?

The deal helps us to expand our core Mac technology through the adoption of the RISC platform

Barbara Krause of Apple

3) The incorporation of IBM RS/6000 RISC (Reduced Instruction Set Computing) technology into a new range of Macintosh personal computers at an unspecified date. Motorola, Apple's longtime companions, rather than Intel, which has been closely tied to the IBM stable for some years, will be collaborating on the project.

4) Non-machine specific, multimedia software environments to be developed. The leaked details of the letter seem to suggest that such software will be made freely available to other hardware and software developers. Industry pundits are making bold claims that such environments are in fact more to do with developing a multimedia world standard competitive with the emergent Japanese-led Compact Disc Interactive (CD-I) than anything else.



• John Sculley, chief executive officer of Macintosh. Would the Apple/IBM agreement have been possible without him. Would Steve Jobs have made the same move?

REACTION STATIONS

Neither IBM nor Apple are prepared to commit themselves to definitive statements at the moment. But speaking for Apple, Barbara Krause in the US was able to state: “From Apple's standpoint, the agreement will allow us to move towards three previously stated goals. First, it helps us to expand our core Macintosh technology upwards through the adoption of the RISC platform.

“Secondly, the adoption of this platform should make the newer Macintoshes even more attractive to large corporations, a market in which Apple has always wished to expand its presence. And finally, the agreement will provide for even tighter integration with larger systems.”

As yet no official comment has emerged from the IBM camp, although the chief execut-officer (CEO), John Ackers, has been reported as showing off Apple technology to IBM executives on three occasions – a

THE LETTER OF INTENT: A FIRM POINTER TO THE FUTURE

At the moment the Apple and IBM deal is still only at the contract stage. The only piece of paper which has actually been signed is a letter of intent, the ratification of which is subject to the signing of detailed accords by the end of this year.

In itself, a letter of intent does not sound like very much to write home about. Neither IBM or Apple has published the full text, and they are unlikely to do so in the future. Under law it is not a binding document, merely an expression of agreement in principle to discuss further details. However, in the case of Apple and IBM, as opposed to Apple v IBM – the case scenario we have been used to for 20 years, even an agreement in principle is a major step.

Essentially the deal revolves around a joint subsidiary to be set up once contracts have moved through the battalions of lawyers on either side. Leaked reports suggest there are four central components forming the basis of the letter. These are as follows:

- Both companies will set up a jointly funded, but independently run, subsidiary company that will research and develop object oriented software. The idea is to develop a truly open system able to run with both IBM OS/2, AIX and Macintosh-based machines. There is also a major intention to ensure that such a system will run across a range of processors including the Intel x86 and Motorola 68K series, and most importantly IBM's own RISC system 6000 range. The as yet unamed company will market its own products, not IBM or Apple.

- Both Apple and IBM will work together on practical solutions to the incompatibility problems which have dogged the former for years. The practical solutions will be two-fold. Firstly, communications and networking tools will be developed and then marketed as being specific and official PC/Mac links.

  Secondly, both companies will unite in the further development and marketing IBM's AIX standard UNIX operating system. Once again this is a pull away from Microsoft. The long term goal is to produce a UNIX system which combines the qualities of IBM's open system architecture with the ability to run the many Mac-related object oriented software packages. The system will cover machines as diverse as DTP/CAD workstations to network servers providing both Mac and OS/2 links.

- Apple will adopt a single chip version of IBM's RS/6000 Power (RISC) architecture. This will be called Power PC and will be incorporated in a new range of Macs. No date for the release of such a machine has even been hinted at. Interestingly for IBM's relationship with Intel, the hardware source and co-partner in design will be Motorola. And Motorola will carry out the marketing of the Power PC chip-set.

- Both companies plan to produce what are being termed as 'platform independent' software environments. This is heading in the direction of true multimedia environments and is aimed at encouraging further growth of such non-machine specific software. Although it has not been stated in bald terms, Compact Disc-Interactive (CD-I) multimedia systems which are proliferating in Japan at the present time are the likely targets for such a wide-ranging venture.

While these aims are wide-ranging and far-sighted in terms of possible future developments, the emphasis is still very much on ‘possible’ rather than definite. There are many legal formalities to go through before the final contracts are exchanged, the subsidiary company put in place, and the IBM/Motorola deal confirmed.

history of computing. Is this the birth of the Mac PC?

BIG BLUE ENEMY

How to grow Big Blue Apples

It is not exaggerating to say that the 3 July Apple-IBM joint software standard could revolutionise software development across the computing world when fully ratified.

Since the launch of the Macintosh (as opposed to the Apple) in 1984 and Windows for the PC in 1985, the emphasis for programmers has shifted away from MS-DOS command line applications to the graphical user interface (GUI).

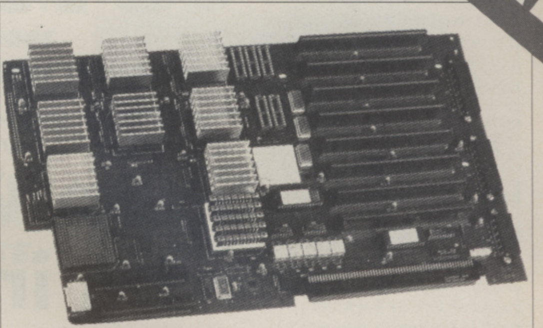
The key to programming these GUIs is the Application Programmer's Interface or API. These are sets of code routines, normally written in C, which allow the programmer to control the various 'gadgets' of the windows system. There are routines to control menus, re-draw windows, drag icons and so forth.

Unfortunately the APIs of the four major systems – Macintosh, Windows, Presentation Manager and X-Windows – are different; not utterly different, but enough to force a good deal of recoding before a program written for one will work on another.

What Apple and IBM are doing by setting their open software standard is to create a single unified API. When that is achieved then the task of porting programs between platforms will become trivial – possibly as simple as setting a menu option in the compiler.

This does not mean that a program for the Macintosh or RS/6000 will run on a PC compatible; program code is in machine code which is specific to the type of processor in the machine. However, it will be a simple matter for the programmer to produce versions for all three platforms, and because there are no extra development costs for having several versions, programs should become cheaper.

If the Apple/IBM standard takes off, then by 1993 we can look forward to being able to run Mac-style graphics programs on PCs, powerful databases on Macs and shareware on RISC stations. And the most important point for the home user is that this software should be cheaper than their equivalents today.



• IBM's RS6000-RISC (Reduced Instruction Set Computing) technology provides one of the keystones for the agreement with Apple. A new, single-chip configuration called 'The Power PC' will be developed and marketed by Motorola. It will also feature in a new range of Apple Macintoshes.

hitherto unthinkable set of events given the previous animosities between the two competing companies.

IBM is equally unhappy with its once staunch ally, Microsoft, following its entry into the ACE agreement with arch IBM rivals, Compaq...

The agreement, when ratified, will have wide ranging effects on other companies. Specifically Microsoft, the publishers of MS-DOS.

The basis of the Apple/IBM agreement involves a commitment to UNIX, in IBM's AIX format, as well as to Apple-instigated object oriented systems. Neither option is open to Microsoft, which is currently being sued by Apple for allegedly infringing copyright by including elements of Apple's operating system in Windows.

IBM is equally unhappy with its once staunch ally, Microsoft, following its entry into the Advanced Computing Environment (ACE) agreement with IBM's rivals Compaq, DEC, the Santa Cruz Corporation and MIPs. ACE was set up to produce multimedia workstations which would have competed directly with IBM's own RS/6000 RISC-based workstation - the technology which provides the mainstay for the IBM/Apple pact. One thing is assured; neither IBM nor Apple feels *it* will lose out. ■

• John Ackers of IBM and Bill Gates of Microsoft. Arguments over OS/2 and the need to move from MS-DOS to a graphic user interface may have caused acrimony between the two former allies.

APPLE COMPUTER: THE REBEL EMPIRE?

Apple Computer's move to join hands with IBM is one of the most outstanding turnarounds in computing history. It also signals the end of an era for Apple itself.

Apple was formed in the mid-1970s when a spate of new, small and ideal-filled companies such as Kentucky Fried Computers and the Itty Bitty Machine Company (IBM) were beginning on the West Coast of America.

The motivating idea for these outfits was to make the computer populist. Young ex-hippies such as Apple's Steve Wozniak and technical wunderkinds like Steve Jobs saw that the way forward was to escape the corporatisim of IBM and create a personal computer which could sit on the desk of every citizen of the free world. At that time, IBM, the world leader in computing, was showing disdain for this notion. The corporate consensus being that mainframes were where the money was.

1977 saw Wozniak reveal a microcomputer -called Apple – at the Homebrew hackers/computer enthusiast convention in Menlo Park near Stanford University in California. This followed the initial and highly successful launch of the Altair kit home computer in 1975. Apple's appearance was also a full four years before the launch of the IBM Personal Computer – what we now know as the ubiquitous PC.

Thus the race, and the fierce competition between Apple and IBM was born.

EXPRESS COMMENT

THE END OF THE COMPUTER COLD WAR

It took 20 years, but it appears that the IBM/Apple hatchet has been buried and it has not ended up bloodied in one or the other's corporate body either.

It all began in 1977 when Apple revealed its first microcomputer. This new concept was initially greeted by IBM as a mere scratch to its corporate computing armour. However, Apple refused to lie down and die – in fact it did the opposite. Four years later IBM, which had not considered microcomputing to be as much of a potential money maker as its stable, and immensely successful mainframe business, buckled to the pressure and launched its first personal computer.

Having made what was considered at the time to be a forced move, Big Blue (as IBM is affectionately [?] known) was determined to make the market its own. The war had begun between the giant and the gnat. It was to be a bloody affair. IBM's strong links with Microsoft, the developers of MS-DOS and more recently Windows, and chip makers Intel, led to the seemingly unassailable monolith of IBM/DOS compatibility. It also led to a straitjacket where IBM became more and more dependant on two conservative sources of supply and R&D. Apple struck back with its WIMP-based frontend, and more recently the incredibly user friendly System 7. It also worked with Motorola and even Acorn computers.

One of IBM's counters to Apple was its ill-fated OS/2 – and it is here that one of the main motivating factors of the Apple/IBM joint venture began. IBM needed multi-tasking, user friendliness and it needed support. Microsoft, apparently, is reticent to support OS/2 and this has become a sticking point between the two firms. But in itself, the OS/2 argument would probably not have caused the Apple/IBM venture. Other factors have to be considered.

It is not good business practice to be tied too close to one or two single suppliers especially if they are apparently not keeping up with the competition. On purely economic grounds a single supplier can control price and supply. Apple discovered this to its cost wiith recent ructions with Motorola where supplies of the 68030 processor were threatened.

But why pull-back the sheets and invite the old foe Apple into bed? One patently obvious reason is that Apple keeps coming up with the goods. Where OS/2 was seen to be clumsy, the Macintosh operation system was viewed as the ultimate in user-friendliness. Where IBM is tied to Intel, Apple has fairly free-form links with Motorola. IBM is seen as a vast, faceless, behemoth. Apple is viewed as young, professional and populist.

But why should Apple go with IBM? Because it is in the business of making money. The one major stumbling block for Apple and its Macintosh has been IBM compatibility. Although it has been successful in getting its machines into small businesses and even to the home user, there remains a massive chunk of the commerical market which is dnied it. The key to this lock is IBM compatibility. Frankly, the joint venture will be of tremendous value to both firms. And their accountants know it.

TOMORROW'S CUTTING EDGE

If you've ever wanted something but it hasn't been invented yet, read this page. It just might be here

香港重新包
面出售之舊
運出口之回
及零件更換

• Japanese characters like this can be translated into English at the rate of 10,000 A4-size pages per month, using a computer-based translation package.

Translation automation

After years of research Japanese company, Toin, has developed a computer-based language translation package that actually works. The company's automatic translation system can translate 10,000 A4-size pages per month.

The system runs on a Hitachi computer and translates English sentences into Japanese. At the moment it can only handle the translation of technical documents, such as computer and machinery manuals.

In spite of this progress, a document that goes through the system still requires some human editing. But the process is still faster than a human translator working their way through an average one-month workload in four hours.

In the future Toin wants to improve the system so it can translate 30,000 pages of documents per month. It believes this can be achieved within three years, and hope the system will also be made more reliable. ■

Shop while you slob with interactive TV

Couch potatoes alert! Soon you won't even have to move from your armchairs to go shopping – a device from TV Answer Incorporated (TVAI) will do it all for you.

TVAI has created TV Answer, a box that sits on the TV and digitally connects the user to the outside world, enabling them to buy things, transfer money and even order takeaways. It is operated by remote control using a joystick.

The 'box' is a computer and the different cards in the machine enable it to perform these different tasks. The cards are much like the ones which store software on portable computers, such as the Poquet. RAM cards are also available to speed up the system or to increase its capacity to store station settings, for example.

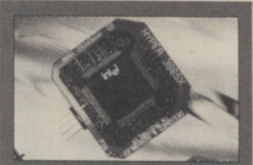
• The Jetsons did all their shopping from the TV and now you can too with TV Answer.

Unlike most things that plug into a TV set, the box is not based around television technology, so it can be used with PAL or NTSC systems. It operates in a similar way to cellular phone networks, with the planned cell sites dispersed to pick up digital signals from the box and transmit information to the required receiver.

The boxes are uniquely programmed with the subscriber's information, such as name and address, which can easily be traced – a good deterrent for potential thieves.

TV Answer also functions as a remote control for the TV, video cassette recorder (VCR) or satellite dish. Other features include network channel selection, tuning users to the regional channel of a television network broadcaster. The device can also be programmed to record on a VCR, including setting a satellite to the right frequency and direction to tape the programme.

All this could be happening in the not-too-distant future, as the company is only waiting for FCC approval. The service is expected to begin in Fairfax, Virginia, and soon after in Los Angeles, possibly in mid-1992. ■



• The micro chip could soon be controlling our bodies as well as our machines.

Micro mania hits man and machine

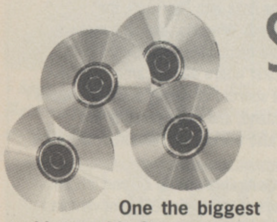
Scientists at Georgia Tech in the US have announced a new technique for producing micromachines: tiny motors, gears and other components that are small enough to fit in the human body or on a computer chip.

The group has already made copper and nickel motors which are 300 microns wide and 50 microns thick (a micron is .0001 of a millimetre).

Most microchip factories are capable of using the new technique, which relies on photosensitive polymide, a polymer plastic used in computer chip packaging. Using the same lithographic techniques used to make other chips, the group has placed patterns of motors, gears and other components on to the plastic, and has then chemically etched them out. These serve as moulds which are filled with metal using standard electroplating techniques.

According to Dr Mark Allen, an engineer on the Georgia Tech team, these miniature devices could be used for positioning lasers to fibre optic cables, or as guides on a microchip for an electron microscope to follow. Other possibilities include mechanical human body parts and organ monitors. ■

Speedy CDs



One the biggest problems with Compact Disc (CD) technology is not how much data can be stored, but how fast it can be accessed.

US company, Ten X, believes it has solved the problem with its Optical Conversion Unit (OCU), the OCU-300. This speeds up the reading and writing to and from CDs, write-once-read-many (WORM) and rewriteable drives.

The unit has hardware drivers that work with a SCSI hardware interface so that software drivers are not necessary. In theory, this means that Compact Disc drives can be completely interchangeable with any type of computer, and operating systems will not have to be upgraded to use the new technology.

Performance has also been improved with built-in data compression and double caching of data to increase speeds.

Hardware compression can be as high as 20:1 and is done as the data passes through the unit – it doesn't have to be compressed or decompressed by the computer, which is faster and more convenient.

Double data caching means that data will be stored in RAM until it can be written to or read from the disk, speeding operations up even further.

Because a hardware interface is always faster than a software interface, the performance of any CD drive with OCU will be improved automatically, claims the company.

The OCU-300 supports any CD drive and can be added to any system with a SCSI controller card. The OCU-300 by itself lists for $1,895 (£1,164) and the company's sub-system packages, comprising of CD drive, OCU-300 and power supply range from $4,495 (£2,761) for a 940Mb CD drive, to $29,500 (£18,120) for a 6,400Mb drive. ■

Long-distance wizardry

• Now the car phone is not the only on-the-road form of communication – the Lapcom receiver can be attached to the roof of your car and it will pass on messages to your personal organiser.

Technology knows no bounds – now even business organisers can receive information over the airwaves.

US company, Cue, has developed a data receiver, called Lapcom, which is designed to work with the Sharp Wizard business organiser (known in the UK as the IQ). The receiver is mounted on the roof of a vehicle and transmits the messages it receives to the Wizard via a standard RS232 serial port.

A green light on the Lapcom is activated when a message is received. The, by pressing one button on the Wizard, the message to be displayed on its screen. Up to eight messages can be stored, even when the user is not there.

The messages are distributed by the Cue radio network, which sends them by satellite to 290 radio stations for broadcasting over the FM signal of each station. Each station covers 8,000 square miles so broad coverage is assured. ■

Chaos reigns

Chaos is usually something we all try to avoid. Now the Japanese are trying to create it, supplanting fuzzy logic with chaos technology.

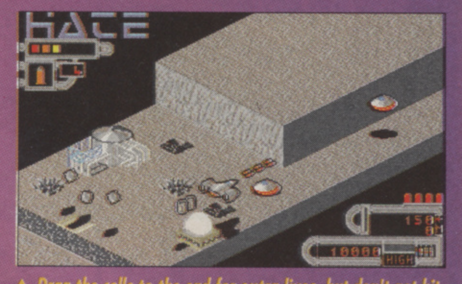
This new programming method builds upon fuzzy logic concepts by applying 'chaotic' principles to data. While the word 'chaos' implies a state where no rules apply, the theory of probability dictates that if enough chaotic situations are created, then a logical order will prevail. Chaos technology is based on this principle.

Practical applications are already being developed to use the new technique. Toshiba wants to apply the chaos concept for pictorial data processing and computer chips, while the Nomura Research Institute wants to use it for predicting financial markets. ■

DON'T MISS YOUR CHANCE!

Special Amiga/ST offer – a complete game!

Despite all our warnings and best efforts to increase availability, it would appear that some *Express* readers still missed out on our special full game issue. Besides all the latest news and reviews for your machine, it featured – as you're no doubt aware – a full, brutally addictive game for the Amiga and ST called *HATE*.



▲ *Drag the cells to the end for extra lives, but don't get hit on the way there. You might live, but they certainly won't!*

- Inside the magazine, just to rub things in, we featured a full, illustrated playing guide, complete with tips, short cuts and even a special cheat for those really tricky moments.
- **If you're an Amiga or ST owner and you missed out, you must be sick as a proverbial pig, eh?**
- Well, you'll be glad to know we have kept just 2,500 copies of this special issue for those regular readers who missed out. To order a copy, fill in the form below and send with it a cheque or postal order made payable to Future Publishing Limited for just £1.95 to: New Computer Express Special Offer, Future Publishing, Freepost, The Old Barn, Somerton, Somerset TA11 7BR.
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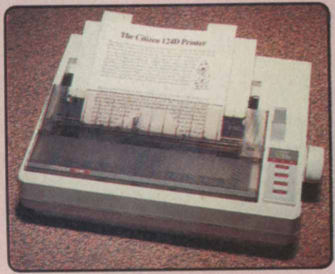

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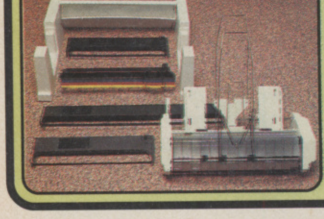

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WHAT'S NEW

Whether it's word processors or electronic clipboards, the *Express* at-a-glance new products guide gets down to just the facts you need

Protext upgrade

PRODUCT: **Wordprocessor**
NAME: **Protext 5.5**
COMPATIBILITY: **PC, Amiga, ST**

A text analysis system is one of the more interesting new features on the latest upgrade of Arnor's acclaimed multi-format word processor package, *Protext*.

Version 5.5 has the facility to read your text and work out how many times certain words have been used. This can help a writer avoid repetition, but they are stuck for an alternative word then they can call up a list of synonyms on a pop-up window.

Other new features include automatic hyphenation, widow and orphan elimination – this stops you from creating ugly lines at the end of a paragraph which contain a single word – viewing files sorted by size and date and mail merging directly from *Prodata* files.

The Collins Thesaurus has been expanded to 43,000 entry words with 827,000 responses.

Price: PC: £206 (Upgrade from 5.0: £71)
ST, Amiga: £152.75 (Upgrade from 5.0: £30)
Availability: August
Target users: Everyone
Contact: Arnor: 0733 68909
Perceived competition: *WordPerfect, LocoScript, Microsoft Word.*

Biro input computer

PRODUCT: **Pen input clipboard**
NAME: **Scriptwriter**
COMPATIBILITY: **PC**

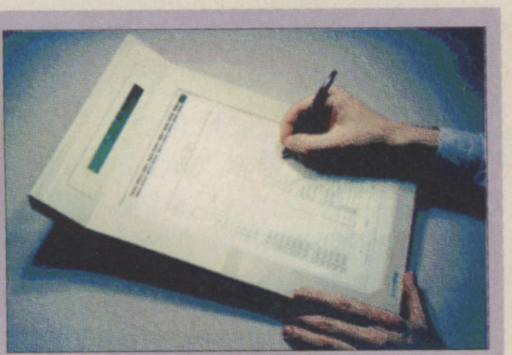
Scriptwriter from Peripheral Vision is a specialised pen input computer with a difference; whereas similar machines from GRiD, NCR and Atari all use specially designed stylus to write on the screen, you need nothing more than an ordinary ballpoint pen.

Described by the company as an 'electronic clipboard' the Scriptwriter transforms hand printed characters into ASCII codes which is stored in the machine's memory for periodical download to a central computer via an RS232 port.

You simply write onto a paper form placed on top of the Scriptwriter's A4-sized pressure-sensitive writing area.

A two line LCD (Liquid Crystal Display) at the top of the clipboard displays the characters as you write them, so that you can check you have entered information correctly.

The Scriptwriter can store over 100,000 characters and also features an internal clock. Internal rechargeable batteries provide up to 10 hours of continuous use. A bar-code wand and internal modem are offered as options.



• The Scriptwriter is a pen input machine that uses nothing more technical than an ordinary biro to enter the data.

Price: £2,000 approx.
Availability: Now
Target users: Business uers who need to fill in lots of forms
Contact: Peripheral Vision: 0373 452755
Perceived competition: GRiDPad, Psion Organiser.

PC survival

PRODUCT: **PC starters guide**
NAME: ***PC Crash Course II***
COMPATIBILITY: **PC**

• If you freeze with technofear every time you see a DOS prompt, then the PC Crash Course books could be just what you need.

PC Crash Course II is a follow up to the successful *PC Crash Course and Survival Course*, and is aimed at people who have just about worked out where to put their floppies and how to run a program, but are still not quite competent enough to fully exploit their PC's capabilities.

It covers such subjects as batch files, applications programs, desktop publishing, printers and the dreaded (to newcomers) DOS. Copiously illustrated with diagrams and cartoons to make complex ideas more easily understandable, *PC Crash Course II* is clearly and simply written.

The first book, which is accompanied by a tutorial diskette, is also still available and is aimed people who know next to nothing about computing. It includes a section titled 'How to sound like a techie, even if you aren't one'.

Look out for an *Express* review of the PC Crash Courses in issue 143.

Price: *Crash Course II* £15.95 (*Survival Guide* £17.95)
Availability: Now
Target users: People who don't know the first thing about PCs
Contact: PC Productions Ltd: 0453 755200
Perceived competition: *The PC Plus Personal Computer Handbook, PC Answers* magazine, out every month**!**

Crystal clear laser printing

PRODUCT: **Fast laser printer**
NAME: **CrystalPrint Lynx**
COMPATIBILITY: **PC**

Qume has launched its CrystalPoint Lynx, a reasonably priced 12 page per minute (ppm) laser printer.

Print resolution is 300x300 dots per inch (dpi). The machine comes with 512K of RAM as standard, expandable to 4.5Mb. 14 fonts are provided as standard, and these can be expanded by the addition of a range of cartridges which plug into the front of the machine.

The standard fonts are based on those of the LaserJet IIP and include the Courier font in various 10 and 12 pitch styles, and 16 pitch line printer fonts in portrait and landscape orientations.

The printer provides both Laserjet IIP and IBM Proprinter II emulations which can be controlled by command codes from standard software applications such as *Symphony*.

Two paper cassettes each hold up to 250 sheets of paper, while envelopes can be printed through the manual feed. When one paper cassette is emptied, the other one switches on automatically.

Price: £1,725
Availability: Now
Target users: Small and medium businesses
Contact: Qume: 0734 584646
Perceived competition: Other low-cost, not so fast laser printers

Reducing glare

PRODUCT: **Polaroid screen filter**
NAME: **CP-Universal 2**
COMPATIBILITY: **10 to 15 inch monitor screens**

• Tense nervous headache? Forget the aspirin, what you need is a Cave Tab polaroid CP-Universal screen filter to cut down on all that computer glare.

Reflective glare and electromagnetic interference from your monitor screen are two problems that can be virtually eliminated by good screen filters. Cave Tab Ltd has introduced two new polaroid filters at the lower end of its range which, the company claims, can reduce glare and static build-up by up to 99 per cent.

At £79 the CP-Universal 2 polyester filters are a cheaper alternative to Cave Tab's high quality glass polaroid filters (£164), but the company reckons they are just as effective.

The CP-Universal 2 polyester screen filters use circular polarising filters so that you can see the monitor clearly even in the brightest of light. A transparent, electrically conductive coating cuts down on the electromagnetic interference. There is also provision for earthing the screen to redirect any static that builds up behind the screen.

The two filters come with a new hinge-type mounting blocks which means that they can be fitted to most 10, 12, 14 or 15-inch monitors – previously eight different sizes of filter were necessary. You can also lift the screen easily off the hinges when you need to clean it.

Price: £79
Availability: Now
Target users: All computer users
Contact: Cave Tab Ltd: 0604 643677
Perceived competition: Manufacturers of high quality screen filters. ■

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EXPRESS MAIL

Welcome to the liveliest letters pages in computing.

This week, Haydn Fitz-Williams prints your thoughts on that astonishing Atari CD-I move, the first prison sentence handed out to a pirate, the end of computing as we know it and the taste of microwaved STs. Plus your chance to put a question to top industry figures!

Atari's CDTV

So Atari has decided to take the plunge and jump on the CD-I bandwagon, eh? I wondered when the company would get round to taking on Commodore's CDTV head to head – but somehow I don't think Commodore will be quaking in its boots. A £3,000 TT based CD-I machine won't sell many units will it? Who on earth's going to buy one of those? I reckon Atari's barking up the wrong tree - it should look at bringing out a CD-I drive for the ST, after all CD-I is just a licence you can buy off a shelf isn't it?

Mark Healey, Newcastle

I AGREE that a TT-based machine wouldn't, on the surface, appear to have a lot of sales going for it, but maybe the intention is to spin down the research and development to some kind of ST hook-up at a later date.

I doubt, though, whether you'll see an add-on drive like the CDTV drive the Amiga has. Atari is more likely to bring out a stand alone CD-I machine that has a floppy disk drive and GEM emulation. When this might be is hard to judge, but I'd hazard a guess at late '92.

☎ Atari's Shots

Congratulations on a great piece about the Atari CD-I machine last week. I especially liked the 'Shots from the Lip' special. I used to think that Atari's top brass would make up any old rumour if you asked them – you know something like 'Is Atari bringing out a fuzzy logic washing machine?' – answer 'We're currently looking at the alternatives but yes, you can at least expect a fuzzy dishwasher...'.

But after reading the piece I realised that as far back as March last year they were hinting at a CD machine. Not so much hot air after all!

Trev Baines, Plymouth

I DON'T KNOW about fuzzy dishwashers, but Atari certainly has a whole host of projected machines in the pipeline. We're still waiting for the STPC, ST console and another four Portfolio type products Bob Gleadow, its UK boss, intimated at nearly two years ago. Gleadow delights in running rings round the press – when he deigns to speak to us – if he so wished he could quite easily ring up an ST magazine and tip them off about a ST-based dishwasher! He's so err..unbelievably believable in an unbelievable sort of way.

FAST busts 1

Thank God FAST (the Federation Against Software Theft – HF-W**) has finally got round to convicting one of these pirates and sending him to prison. The sooner these people realise piracy is theft the better. Perhaps software houses should start putting stickers on games which say – 'Copying can seriously damage your freedom' In the words of a famous London cabbie – it's the only language these people understand.**

K. R. Davis, Guildford, Surrey

HO-HUM...yes, it's important that justice has to be seen to be done, but prison sentences for all pirates would be a little over the top don't you think? Maybe you don't. What do you think readers? Send in your thoughts to 'Hang 'em high', NCE, 30 Monmouth St, Bath BA1 2BW.

FAST busts 2

So it's finally happened. FAST has sent someone to prison for copying games. I find it unbelievable that a so-called 'crime' which is no different to taping music off CDs, albums and the radio, should be treated in this way. Don't the authorities realise that prisons are just the universities of real crime? Pirates will just get more desperate if they're looking at a stretch; there's no telling what they might do.

Brian Greaves, Sheffield

JUST REMEMBER, Brian, that FAST hasn't sent anyone to prison – that's the job of the courts. Also I think the person in question was doing something a little more harmful than taping music – he was selling pirated software.

Amiga Pens

Now that pen-input computers are all the rage and according to your article, even Atari has brought out a machine that recognises handwriting and doesn't use a keyboard or monitor, why hasn't Commodore any plans to bring out an Amiga version? I'm sure there would be a market for it.

Dean Jones, Swansea

I THINK I'm right in saying that Commodore doesn't have plans to bring out an Amiga portable let alone a pen-input machine. Gigatron in Germany had a prototype it showed in the US a while ago, but I think it ran out of money before the machine saw the real light of day. At the time, Commodore didn't support it though – presumable because it had ideas of its own. Nothing's arrived yet, but a portable Amiga would have certain benefits – not least in video work.

The end

I find it interesting that you are predicting the end of home

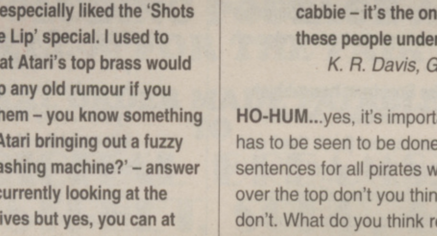
MORE FABULOUS MEGA-MAGNETIC LOOT ATTRACTION UTILITIES - PARTS 15 &16

15 **I have an idea that is going to blow book publishing away and put Collins, Methuen and even Ian Allan into receivership.**

The busy office where I work as an evening cleaner does printing for local firms and recently they installed an optical character recognition scanner to automatically type in letters and documents.

It didn't work very well with the varied quality of correspondence so I was able to borrow it. It works fine with all the professionally printed reference books in the library and with a spell checker, context checker and thesaurus on my PC, I've already altered 20 books on trivia and superlatives beyond recognition. A quick trip to the printers and a handful of illustrations and I'm quids in. Original material for next to nothing.

John Guinness (Name changed to cash in on the famous one)



Millions of quids are awaiting you. All you need is one OCR scanner and a lot of nerve.

16 **Here's a way to make some money. Take advantage of the ludicrous tax and company legislation in the UK by opening up a company with a name that includes something electronic and computery sounding, run it into the ground while a friend opens a small computer supply company. As you go to the wall, you'll find that your friend is ready to buy up the remnants of your company for peanuts, you can shrug your shoulders and blame it on the recession or any other convenient excuse and march off into the sunset. Funny thing about sunsets is that within a few hours they turn into daybreak and your friend (being the benevolent chap that he is) will be sorry to see you down on your luck and employ you as a full partner. You will reap the benefit of your original company's capital without honouring its liabilities.**

If you think it sounds dodgy, look at the computer world. There are at least five documented cases in the last couple of years.

Colin Baines, Cromer

ON THE COUCH

This week *Express* psychiatrist Dr. Clare Anthony's willing patient is DARRELL SERGENT from LEICESTER. All young Darrell did was write in with the machine he owned, his favourite software and the machine of his dreams. Then Clare whisked him off to her interface work-out facility and laid bare his soul. You could be next! Just write to: Leather Couch Clare, *New Computer Express*, 30 Monmouth St, Bath BA1 2BW, you could be next!

Right Darrell, relaxed? OK just put these 40kilowatt designer electrodes on please and close your eyes...

- MACHINE OWNED:
  Atari ST
- FAVOURITE SOFTWARE:
  Devpac ST 2
- DESIRED MACHINE:
  Fractal generated finite state mind machine with superconducting copper oxide interface

Now I'm not familiar with the particular machine you desire, Darrell, but I can tell you one thing - you are seriously deluded. Mind machines of any description are problematic in so far as they merely skim the surface of the conscious without penetrating the deeper psyche.

While Devpac 2 is, of course, a very useful way of deriving meaningful intercourse with your Atari, the nett effect is bound to lead to frustrations.

With assemblers, the problem centres on what we Freudians call 'the input/output dichotomy'. In other words, it's not what you put in, but the way you put it in that counts. And as Jung only too frequently noted, machine code monitors are fine for voyeuristic pursuits but incapable of offering intimate fulfillment. Just remember, there's no such thing as safe hex, particularly if you resort to debuggers.

PROGNOSIS: Sell Devpac 2 and buy a C++ package. Then, lying on the floor, position your monitor next to an open window so it has a backdrop of passing clouds. Quickly code the fractal elements of the changing sky into a single chaotic transformation and sell the results to Breakfast TV. You will shortly realise a salary of 75K a year as a weatherman is the only finite state of mind you'll ever need.

computers as a games machine, with the superior presentation of the consoles leaving these micros standing in the performance to price ratio.

Looking at the American market, I can well see how you arrive at this conclusion.

However, I feel that you have failed to take into consideration the fact that the home computer is viewed differently here to the rest of the world. This is because of the unique popularity the Sinclair machines enjoyed in the UK. Take a look back in time at the early eighties when the Atari VCS ruled the leisure market, with the Intellivision and Colecovision as contenders. All three of these machines were wiped into oblivion by the Spectrum and C64.

Take a look at the computer games of the time. The Atari boasted better sound, no colour clash and instant loading. The other two newer machines were way ahead with the Intellivision offering involved, strategic games such as *Dungeons and Dragons, Maze-A-Tron* and so forth. The Colecovision was launched with the graphically stunning *Smurfs* and arcade perfect conversion of *Zaxxon.*

The Spectrum has rubbish sound, colour clash, character block movement (back then) and everything took several minutes to load (not including all the time spent fiddling with the volume control). It was also more expensive than most consoles, and yet it ruled supreme when it came to what people wanted. They wanted a computer, not a toy.

I think that if you compare the Amiga games to the Famicons, and the early Spectrums to the Colecovision (or even the VCS) I'm sure you will agree that the Amiga fairs better with its competition than the 8-bit did.

Gerald Byrne, Birmingham

I'M SURE YOU'RE right Gerald, but I think *Express* was just commenting on the fact that it sees the current 'computing' market dividing into specialist and consumer areas. I don't know about the Amiga fairing well with the Famicon though – the Nintendo graphics I've seen seem to be superior. But then the Amiga is almost reaching its seventh year.

A challenge

One point I would like to make about the Macintosh is this, it has been around a long time now and in terms of technology is quite old, but as it provided one of the first GUIs available it was a natural starting point for programs which could produce newspapers, etc.

So the Mac has had a head start over other Desktop publishing computers, but today it offers too little for too much. What I would like to do is issue a challenge on a paper.

You have a top end budget of £6,000 and a bottom end budget of £2,000. Put together a Mac based system for DTP and print the details in *Express.* When (if?) I see your list, I will do one of my own for an Archimedes based DTP system. I say that the Arc system will equal the Mac system in all respects and costs less as well. I will even go on to say that an ST/Amiga based system will give it a good run.

S. Robinson, Llandrindod Wells

Ask a question and win a fiver!

Yep this is your chance to put your queries to some of the world's leading computer companies. Over the summer, Express will be conducting a series of interviews with some of the biggest names in the biz. And we want your contributions!
Here's the list of the top manufacturers and developers we'll be talking to:

● Acorn ● Amstrad ● Apple ● Atari ● Commodore ● IBM
● Intel ● Microsoft ● Motorola ● NEC ● NeXT ● Nintendo
● Panasonic ● Philips ● Sega ● Sharp ● Sony ● Tandy

The theme of the series is 'Towards 2000', so we'll be asking the UK bosses of these firms to tell us where they've been, where they're at and where they're going. And along the way there's bound to be an opportunity to ask a lot of niggling little questions you've always wanted answered but never found in print.
So now's your chance to find peace of mind and win some dosh into the bargain!
All you have to do is drop a line to 'Industry Interviews', *New Computer Express*, 30 Monmouth St, Bath BA1 2BW and we'll do the rest. But hurry, we want to get this off the ground as soons as possible!

OK LET'S GO. Here's my price list – 1 Mac Classic with 2Mbs RAM and 40Mb hard disk – £895. Sharp's 300 dpi JX-100 colour scanner at £500, Aldus's Personal Press DTP software – £199, Adobe's Type Manager for £59 and a 360 dpi Apple Style Writer for £295. Total = £1,948. Not bad, eh?

Tasty ST

What would happen if I pierced my Atari ST with a fork and put it in the microwave for half an hour on full power? Would it taste nice?

Mr. Unhabunga, Africa

IT WOULD TASTE about five times better than a British Rail chicken madras. Do any other nutters err.. readers wonder what their machines taste like?

Potential abuse

I feel I must write as a potential World Wildlife Fund member about the abuse many of your readers seem to dish out against dolphins. So I have compiled a list of favourite computer related objects, which make me sick.

1) Computers which think they are better than their users.
2) Friendly dolphin tuna.
3) Same as above but with green lables.
4) Unbranded disks
5) Winning one of Haydn's fivers.
6) Lists
7) 1/20,204 chances
8) Purple veg (except cabbage)
9) Bad writing and punctuation.
10) Missing things.
11) People who can't count.
12) Sick building syndrome
13) Send us a tenner or the NeXT gets it.

A Burn, Peterborough

DOLPHIN TUNA indeed! Actually the chances of winning one of our compos are significantly better than 1 in 20,204. I'd say you were looking at chances of better than 1 in 200. Well you would have been until I printed that! ■

Write Now

Write and tell Haydn Fitz-Williams what you think! Reach him at: *Express Mail, 30 Monmouth Street, Bath BA1 2BW.* Sorry, no personal replies, even with an SAE and remember, only SOME letters win a fiver!

On-line mail

Own a modem? Then squirt us a letter. *Express* has its own area on Aspects bulletin board (061 792 0260) where you can leave mail and upload/ download files.
We also have our own conference on CIX. Why not give this on-line service a ring on 081-390 1244 and talk to us direct!
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THE VERY BEST OF

PSYGNOSIS

AMIGA

- **Challenging educational arcade game rediscovered**
- **Hot tips, for the horses! *Tipster* phoneline launched**
- **High quality, full colour digitising with *SnapShotPro***

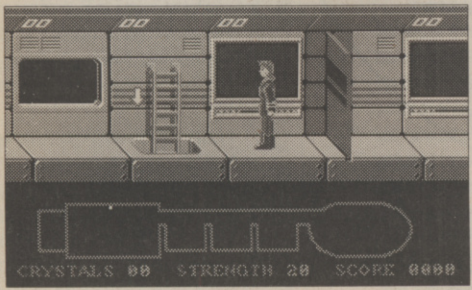
VOYAGE OF DISCOVERY

Veteran Amiga owners may remember a smart little educational game called *Discovery* which was unsuccessfully released by Microlllusions into this country a few years back. Well, Microlllusions has decided that the time is now right to push it back into the market place once again.

It's been enhanced beyond recognition, so that not only is it of great educational value, but it's great fun too.

Unlike most educational software, *Discovery* takes the form of an attractively presented arcade game which sees you in the role of one of four deep space salvage and repair workers. Your job is to board one of a number of huge spaceships marooned in deep space and repair it by journeying around the ship collecting fuel crystals.

Finding your way around the ship is bad enough, but you also have to be on the look out for strange and rather deadly alien creatures that wander the ship's corridors looking for human flesh on which to feed.



• *Journey around the alien ship learning valuable lessons as you go thanks to Microlllusions'* **Discovery.**

Each ship also has a sophisticated security system that must be breached if your mission is to be a success. This takes the form of computer controlled doors that can only be opened by correctly spelling a word given to you via the Amiga's built in speech synthesiser.

At the beginning of the game you can choose the types of word to spell. These range from simple words to scientific, technical and computer terms.

In general, *Discovery* is a fine bit of software that is let down only by the quality of the Amiga's speech synthesiser. It's often difficult to make out what word the computer requires you to spell, which can be fatal if you're being chased by some unsavoury looking alien that wants to put you between two slices of bread and have you for its lunch.

As a piece of educational software, it really is very well designed and implemented, which should provide an informative and challenging pastime for children of all ages.

☎ Microlllusions is on 0480 496497.

THE HOT HORSE LINE

Amiga-owning gamblers have enjoyed considerable success recently thanks to Sidmouth Software's acclaimed horse racing prediction program, the *Tipster*. But now, thanks to Sidmouth Software boss Steve Marriot, non-Amiga owners can also get in on the act.

No, we're not talking conversions to other machines (although the *Tipster* is also available for both the ST and PC). In an attempt to prove to the world just how reliable the *Tipster*'s advice really is, Steve has set up a telephone tipping line. For the very generous price of just £9.95, Steve will provide you with three hot horses every day for a whole month.

Tipster has a really impressive track record so don't miss this opportunity to get your own back on the bookies.

Thanks to the generosity of Sidmouth Software, I've managed to fix up a special discount for *Express* readers. If you phone Sidmouth and tell them that you read all about the tipping line within this publication, Sidmouth will let you have the first month for the reduced price of just £6.95.

Upon application, you will be given a unique PIN number which must be quoted everytime you phone up for advice. This changes every month, so you'll have to re-apply for a new PIN number at the end of each month.

If you'd rather do all the hard work yourself, Sidmouth's *Tipster International* system is still available for just £34.95.

☎ Contact Sidmouth on 0395 513558 and don't forget to tell them that *Express* sent you.

SNIPPETS...

● Checkmate Digital has announced the impending launch of a new paint system for its well received 24-bit graphics extender HAM-E.

The original paint system bundled with HAM-E was a little clunky to say the least, which unfortunately managed to completely ruin what was undoubtedly a very capable program.

Thanks to comments within both the UK and international Amiga press and from HAM-E users the world over, Black Belt has tied up the package and fixed many of the problems users encountered.

I'll be taking a look at the new paint system next week (hopefully).

☎ Checkmate is on 071 968 0658.

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- Reviews of both *AMOS 3D* and the AMOS Compiler are still very much 'in the works', but you'll be pleased to learn that both products have now started to ship. *AMOS 3D* costs £24.99 and the Compiler costs £29.95.

Both are absolutely brilliant products which are an absolute must for every AMOS owner.

☎ Order your copies now from Europress Software on 0625 859333.

- Contrary to what everyone else in this country is saying, Microlllusions in the States is still insisting that *Music-X 2.0* is still very much alive. It seems that the product may not actually end up being written by Dave Joiner (the programmer of the original). Dave has supposedly become bored of *Music-X* and wants to move onto projects new including work on the CDTV.

Staying at Microlllusions, there's still no sign what so ever of *Photon Paint 3*, which was promised for release way back in January of this year.

As exclusively reported in this column, Microlllusions has had a bit of a bust up with the authors of the original. It now seems that *Photon Paint 3* will be written by a company in Canada. As a result, it is not certain whether the new product will look even remotely similar to its predecessors.

Jason Holborn

MAKING A GRAB

HB Marketing is very good to me. It's just sent me a review sample of a brand new video digitiser just in from Germany. Called the *SnapShotPro*, the digitiser offers realtime grabbing and full colour support from a standard home VCR player.

After fighting through the spaghetti hanging out of the back, I plugged in my VCR and got out my extensive video collection in preparation for some serious image grabbing.

After little more than a few minutes experimentation (the manual was in German, so I had to suss out the system for myself!), I was able to grab what were undoubtedly some of the best grabs I've ever seen on an Amiga screen. When you also consider that the images were grabbed from a smeary composite video source taken from video tape, the quality of the grabs is almost unbelievable.

As soon as I get the full English documentation through I'll be bringing you a full review.

• Being a bit of a Depeche Mode fan, I had to grab a few images from my Mode video collection. This one is a 16-colour high resolution pic. As you can see, the quality certainly is pretty impressive.

ST

● CD-I Falcon set to knock CDTV from its perch
● The *write* way to expand your foreign vocabulary
● Why bother with full price games when PD is so good?

CD-I-ST?

You'll have read in last week's issue about the brand new Atari workstation project; Falcon. This advanced machine (uncovered by yours truly) is a CD-I computer aimed at users who require massive processing power and fast high resolution graphics. But what is the machine really all about?

Obviously the most interesting feature of the computer is the CD-I element. Atari has joined forces with Philips, Sony and Matsushita in adopting the CD-I standard, the opposition to Commodore's ill-conceived CDTV.

With major players like the three mentioned above producing software/ hardware for the machine, the future of the Falcon looks good. Also, a side effect of Atari producing this machine will be that the technology will work its way down into the rest of the ST range.

The Falcon is fully compatible with the ST, so it wouldn't take a great deal of effort on Atari's behalf to create a CD-I/ST machine.

Not necessarily a CDTV look-alike in which an ST is bunged in a box with a CD drive and sold without a keyboard, but more as a module for the ST, an add-on to give ST owners CD-I technology at a decent price.

So what kind of software could we look forward to with a CDI system? Well, for a start, graphic adventures will never look the same again; games could use real digitised images. So, for example, if you had a game set in a city you would be interacting with pictures of a real city. The reason you can do this is because the CD-I drive is, in effect, a massive storage space; huge amounts of data can be stored on one disk.

Bob Gleadow, the managing director of Atari UK tells me that the Falcon has been designed to rival the Sun workstation. However, I believe that its impact will affect much more than just the high end computer market; Falcon is a machine which will do wonders for the Atari name.

WHOLE NEW DOMAIN

In my capacity as news editor on *Express*'s sister publication *ST Format*, I have the sometimes enjoyable task of reviewing new games software which

Continued on next page ➤

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◄ appears on the market. I also write the public domain section in the magazine, which includes a games round-up. So it's deeply amusing to me that lately I've been enjoying £3 games far more than the ones which set you back £30.

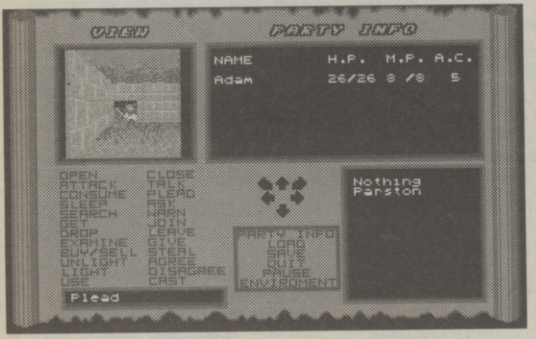
Public domain games are looking increasingly better than their commercial counterparts. Programming collectives such as the Budgie label continue to release high quality games as PD, with the intention of showing up the commercial software houses for what they are – largely uninterested in gameplay or lasting interest, massively interested in releasing unoriginal, tardy, cliché-ridden software which can yield a couple of months in the charts and then a few weeks in the budget bucket.

With champions such as Jeff Minter (he of *Llamatron* fame) discarding the software houses and adopting the shareware philosophy of 'pay if you like it', you as the punters are the ultimate winners. Support the public domain and shareware and the software houses will get a rude awakening.

Remember, these are recessionary times for the big companies as well as the little people; if you stop buying the crud which software houses tout as 'entertainment', then they should start producing original product, which might, for once, be worth the £30 cover price they ask.

In the meantime, here's my list of the top ten recommended PD games. You should be able to get hold of them from most PD libraries:

- *Llamatron* (shareware)
- *From Little Acorns* (Budgie Licenseware)
- *Spectral Sorcery*
- *Dark Wars* (Budgie Licenseware)
- *Skull Diggery*
- *Master Breakout*
- *Bolo*
- *Soko*
- *Orbit II*
- *Wizard's Tower*



NAME	H.P.	M.P.	A.C.
Adam	26/26	8 /8	5

• **_Wizard's Tower is just one of a whole host of games available for next to nothing in the Public Domain that put many of their full priced contemporaries to shame._**

WRITE ON, JE PENSE!

That's Write is one of the best WYSIWYTYW (what you see is what you think you want) word processors available for the ST.

Distributor Compo Software has just announced a whole batch of add-on dictionaries for the program covering seven languages: German, French, French Canadian, Spanish, American English, Dutch and Swedish.

Each is licensed from the dictionary specialists Langenscheidt GmbH. The German disk has a root dictionary of over 300,000 words combined with an internal map which indicates which words can be compounded, giving (it says here) an effective dictionary of over three million words.

Neal O'nions of Compo Software reckons that the dictionaries are the perfect platform for use in Modern Language teaching, so those schools with an ST or two in residence will be pleased to hear that their already strained county budgets will only be dented by £34.99 per dictionary.

Compo Software lives at 7 Vinegar Hill, Alconbury Weston, Huntingdon, Cambridgeshire.
☎ 0480 891819.

Andy Hutchinson

Andy Hutchinson is the news editor of the UK's best selling and best loved ST magazine, ST Format, out every month.

NETWORKING HAS NEVER BEEN SIMPLER

I now have full details about the networking package that I mentioned last month.

The Universal NETwork has been designed by a company based in Oregon in the States. It is a hardware-independent network which enables large numbers of STs to link up and use the same hardware/printers.

The network operates with all STs/STEs/TTs and with any version of TOS. Two options are available:

1) An ST version with either LANtech or MIDI drivers.

2) Mega STE/TT version with ST drivers as well as custom Mega/TT drivers for use with the built-in AtariLANport.

The best feature of the network is that you don't need any special commands or network shells to use the net. If you can run programs or copy files then you can operate the network; every function can be carried out directly from the desktop.

The ST version costs $179 for two nodes with MIDI/cartridge drivers with each extra node costing $85. The Mega STE/TT version costs $219 for two nodes with LAN/MIDI/cartridge drivers with each extra node costing $95.

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CPC

- *Turrican 2* – the best Amstrad shoot-'em-up ever?
- Revealed! The painless way to de-bug machine code
- *Fun School 3*: learning doesn't have to be boring

TURRICAN 2

Rainbow Arts gave trigger-happy gamesters a treat last year with two excellent shoot-'em-ups.

X-Out was the first, featuring some tough underwater blasting against a large variety of colourful aliens. The scrolling and sprites were brilliant, and there was the added element of a shop section where you could buy oodles of powerful weaponry.

Turrican was next and was even better. This was a platform/scrolling shoot-'em-up where you controlled a lone crusader against evil.

Now the sequel – *Turrican 2* – is here and, without exaggeration, it almost beyond belief.

Priced at £9.99 on tape and £14.99 for the disk version, *Turrican 2* is similar in game style to the original. You control Turri as he marches along the ground, periodically leaping from platform to platform and blasting away at the enemy.

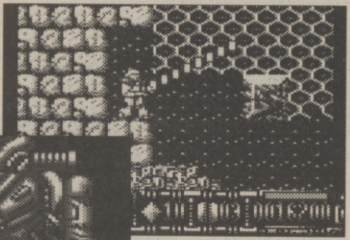
As before, you have an ordinary shooty-style gun, but if you keep the Fire button pressed down you it transforms into a solid laser beam which you can direct with the joystick. There are bonuses to pick up along the way including extra weapons and lives.

However, the startling thing about *Turrican 2* is that there are even more sprites than the original. The scrolling is excellent and the variety of background tremendous. There is even a whole new game section where instead of controlling Turri himself you have to pilot a small ship through an *R-Type*-style section. Incidentally, although the format is similar to *R-Type's*, the execution is infinitely better – and *R-Type*'s not bad as it stands!

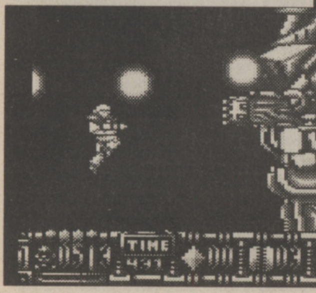
But the most amazing aspect of the game is not really any of these things. It's the sheer size of the affair. According to the programmers, there are a sum total of 1,500 screens! That means that if you think of Turri as being a figure one inch high, you have a game playing area the size of a house!

For some reason, games programmers are still only now getting the CPC hardware to reach its full potential. If somebody had shown me the spec for *Turrican 2* before I saw the game, I'd have told them it couldn't be done. But here it is...

Turrican 2 is the best-looking, best-sounding, biggest, toughest and most impressive shoot-'em-up there is. Get it!



• *ABOVE: Holding down the Fire button gives you a death-dealing laser beam.*



• *LEFT: Turrican 2 features some SERIOUS sprites – just cop a load of this one!*

PD NEWS

I have some news of two new PD ventures to tell you about this week.

The first is a new library called Dartsma ('Amstrad' backwards – ho ho ho), which has been set up by Londoner Adam Shade.

Adam claims his library is the cheapest in the UK – he charges only 50p per disk 'selection' – but as usual you must supply a blank disk and a stamped, self-addressed envelope.

Some of his software sounds very interesting, too. Among the 42 disks currently on his books is a special demo of SPM Software's *General Military Simulator* (which I reviewed a couple of issues ago). Also from SPM is a fully-playable game – *The Italian Campaign*.

For a free Dartsma catalogue send an SAE to: Adam Shade, Dartsma, 47 Kidd Place, Charlton, London SE7 8HF.

Tim Blackbond of Liversedge is up to something slightly different. He's starting up a new magazine, *Artificial Intelligence*, devoted to public domain software. Issues cost £1 each (which includes postage and packing) and will contain about 20 A5 pages.

You can order a copy from: Tim Blackbond, Artificial Intelligence, 19 Lee Street, Littletown, Liversedge, West Yorkshire WE15 6DZ.

Z80 SIMULATOR

I've already given this new product from Goldmark Systems a mention, but now I've had time to investigate it further – and I've discovered that it really is an

Continued on next page ➤

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◄ extraordinary program.

Basically, it simulates one of the CPC's memory banks (yes, it does need a 128K disk machine to run), and is designed to help you check and debug your machine code.

Where *Z80 Simulator* is unusual, though, is that while most machine code monitors require a certain amount of memory themselves, this program gives you an entire 64K.

Although the program is really only useful to experienced programmers, it does have a pretty thorough Help system, and it's not hard to find your way around.

Z80 Simulator carries out all the usual functions – memory editing, memory dumps, disassembling – as well as letting you single-step your way through your code.

As I said, it's not for beginners. But for experienced coders it could be a godsend – it's powerful, versatile and in many ways quite unique.

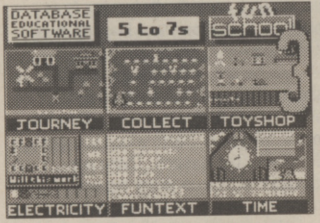
Z80 Simulator is available at an introductory price of £15 from: Goldmark Systems, 51 Comet Road, Hatfield, Hertfordshire AL10 0SY.

FUN SCHOOL 3

Database has just completed the second pack in its educational series. As with the Under-Fives pack, this one features a main menu from which you can access six 'sub-games', each of which is designed to educate a child painlessly.

Among the learning activities are:

- Telling the time
- Simple arithmetic
- Maze-solving
- Circuit-designing



• Fun School 3's main menu gives you a selection of six fun, but educational, games.

This last one is a bit odd for a program designed for this age range, but it's simple enough to use and probably teaches quite a bit about logic, planning and arithmetic.

The *Fun School 3* series blends education, fun and presentation very well indeed. The games are very attractively designed, fun to play and also quite instructive.

The Fives-to-Sevens pack is up to the same high standard as the Under-Fives version, and builds on the skills already established by the earlier program. Database's hope, of course, is that parents will buy each package in turn as their children grow older.

Fun School 3 costs £12.99 on tape and £16.99 on disk.

Rod Lawton

Rod Lawton is the editor of Amstrad Action, *jammed full of CPC news, reviews and features every month.*

C64

- ***Creatures 2* update: who's the special guest star?**
- ***Vidcom*: how to make the best that much better**
- **Does the latest soccer sim offer any new angles?**

CREATURE COMFORTS

You may remember my feature on *Creatures II* way back in issue 128. Then again, you may not. Anyway, the game (and many of APEX's ideas) have changed considerably since then, so a follow-up seems sensible....

- The game is NOT called *Creatures II*, but rather *Clyde Radcliffe in Torture Trouble*. So now you know.
- The storyline remains much the same, with Clyde attempting to rescue his kiddies from the clutches of some evil demons.
- The game will consist of torture screens only, with the horizontally-scrolling stages being axed.
- After each torture screen is a bonus phase (see screenshots) where additional fuzzy-wuzzys must be saved with the aid of a friend and a trampoline.
- There will be approximately 10 torture screens in the final game, as opposed to the originally-planned 15, and after every third screen will come an 'Island Hopping' section; Clyde has to travel from one island to another, probably in a speedboat, in a fast parallax-scrolling shoot-'em-up cascade (reminiscent of *Nebulus*).

The torture screens are progressing well at the moment, with the third one nearing completion soon. This particular screen features lots and lots of snow, not to mention lots and lots of blood.

The previous screens include barbequed fuzzies, fire pits, and acid baths! Inspiration for such cruelty comes from many sources, including *Dangermouse*, *Trapdoor* and even the old *Batman* programmes!

The bonus section after each screen remains the same as before, only the backdrop will be different (as well as a few minor tweaks to enhance

ARKANOID HOT TIP

Here's a cheat for the recently re-released *Arkanoid II* – simply enter your name as DEBBIE S on the highscore table for infinite lives.

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the difficulty). Many of the bonus sections are based on scenes from the original game, such as Watery falls, Caves of Slime, Manic Meadows and Clyde's house in the Forest of Gateau!

The game will also feature a guest appearance by Maximus Mouse, star of *Summer Camp* and *Winter Camp*. Indeed, Clyde appears in one of *Winter Camp's* bonus sections! Rumour has it that Maximus will appear on torture screens and pull extra weapons from the ground, depending on how badly the player is progressing.

Torture Trouble also boasts a few special effects: the playing area has been expanded, so Clyde (and other creatures) can now move about in the top borders (the bottom border accommodates the cutesy status panel). Each screen can feature up to 35 sprites, and *every* section will have an individual piece of music to accompany it (about 30 in all).

Apex also estimates that 120 disks will be needed to store all the development files for the game!

The final game, unfortunately, will not be released at the CES Show in September, but there will be a couple of superb demos for you to see. And if the game is as successful as its prequel, Apex may just release a selection of data disks holding additional levels.

HERE WE GO

Quite a few soccer 'simulations' have appeared recently, such as *Gazza II*, *3-D Soccer* and *Trevor Brooking's World Cup wotsit*. Now Elite has released *World Championship Soccer*, but does it add anything new to the genre?

The game can be played by one or two people, although only one player can participate in the tournament. You can select any team, and you do so by clicking on the appropriate country on a world map.

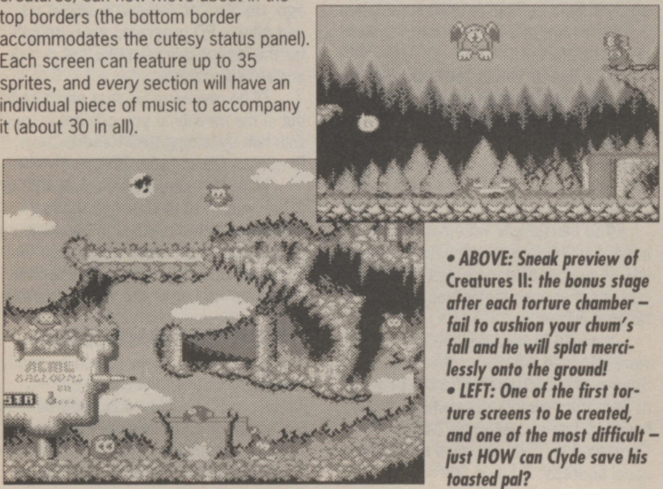
Regardless of who you (or your opponent) are, you play in blue and your opponent in yellow. The game is viewed from overhead, and scrolls multi-directionally depending on where the ball is. Gameplay is fairly straightforward, with the nearest player to the ball being the one under your control.

When in possession of the ball, it can be dribbled around the pitch. Pressing fire will kick the ball in the desired direction, and fire will also initiate a sliding tackle when not in possession.

The game runs fast and furiously, and the usual corners and throw-ins are evident. However, there is no provision for off side kicks or fouls; then again, who cares?

World Championship Soccer is an entertaining game, with a good array of options and playing modes, but the graphics are somewhat crude and sound is appaling. Some moves are difficult to play, and the computer is more than a little biased (would you believe an Argentinian referee?).

It is fun to play, especially in two player mode, but I would seriously recommend that you try before you buy. Alternatively, if you can get hold of a copy of *Sensi-Soccer*, forget *World Championship Soccer* altogether.



• ABOVE: Sneak preview of Creatures II: the bonus stage after each torture chamber – fail to cushion your chum's fall and he will splat mercilessly onto the ground!
• LEFT: One of the first torture screens to be created, and one of the most difficult – just HOW can Clyde save his toasted pal?

VIDCOM ASSISTANCE

Being the best art package for the C64 doesn't mean that Vidcom hasn't any flaws. Indeed it has quite a big one (oooh-er). In multicolour mode, you may have noticed that you have to press the cursor left/right keys *twice* to move to an adjacent pixel – a pain in the arm.

Well, the following pokes (when entered with an Action Replay or similar dongle) should remove this oversight:

```
POKE 9906,254
POKE 9907,254
POKE 9908,254
POKE 9910,2
POKE 9911,2
POKE 9912,2
```

Free and fluid keyboard control should now be yours.

THE FLOOR IS YOURS

Are you happy with this column? Any hints, tips, suggestions or contributions? Are you a user club or fanzine seeking publicity (in which case send me a copy)? Do you have *anything* C64-related to write about? Then drop me a line at *New Computer Express*, 30 Monmouth Street, Bath, Avon BA1 2BW.

And as the sun sets over Gerard's Bridge, I stare poetically out of the window and wonder 'Wherethe heck is the *3-D Construction Kit*?!' Review (hopefully) next week.

Andrew Roberts

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SPECTRUM

- **Speccy game smashes the 100,000 sales barrier!**
- **Aladdin's cave of software on PD Super Disk**
- **Cheat your way to the top of the leaderboards**

ALIVE AND WELL

Here's another piece of irrefutable evidence that proves the Speccy is alive, well and very much kicking. In fact it's going from strength to strength without a rest in between. Feel free to cut the following fact out and wave it vigorously in the presence of any doubters.

The Spectrum version of CodeMasters' *Treasure Island Dizzy* has sold over 100,000 copies! This is a phenomenal figure by any standards and shows CodeMasters' policy of releasing good, original cheapos is paying off.

The game has been in the Gallup All Formats Top 40 for a period of over 122 weeks! *Fantasy World Dizzy* has been in the same chart for over 77 weeks and *Magicland Dizzy* has recently been number one.

The fact that a single title can sell over 100,000 copies on our format firmly stomps all over any rumours of the Spectrum's demise. And the only reaction to that can be loud Hurrah!!!

IT'S THE CHEATING, NOT THE TAKING PART THAT COUNTS

I know from past experience that you lot aren't adverse to a bit of low down, dishonourable cheating so here are some foolproof methods for achieving stratospherical scores and end of game congratulations.

- ***Arkanoid 2***

Type MAAAAH into the high score table for cheat mode.

- ***Robocop 2***

Redefine the keys as MUSYULE and when playing the game hold down GTI and you will skip a level.

- ***Turrican***

Hold down NOV and you get 99 of everything except diamonds. Then if you press 0 you will skip a level.

- ***Rastan***

Hold down SPACE and BREAK together for infinite energy.

Thanks to the ever-prolific Alan Johns, obviously a man endowed with immense hacking powers. All he wants in return for saving our lives in hundreds of games is for me to say hi to the guys at school. Undemanding eh?

BUILD A SPECCY WORLD

A few weeks ago in *Express* 139, Keith Pomfret took a look at the long awaited *3-D Construction Kit* programmed by Incentive and available from Domark.

What wasn't mentioned in the review was the availability of a Speccy version. This should be out soon, costing £25, works on 48K and 128K machines and looks completely excellent.

With this package humble and thick punters like myself with no programming ability should be able to craft superlative 3-D extravaganzas in the style of *Driller* or *Castle Master*.

The Spectrum version looks like it's able to do most things the ST, Amiga and PC ones can and to confirm it's absolute brilliance, *Your Sinclair* recently gave the package a 92 degrees rating and called it an "absolutely incredible piece of software."

You can't argue with that. Let's hope that *3-D Construction Kit* leads to lots of independently created gaming classics that push the Freescape idea as far as it will go.

It would be nice if some of these were released into the under-developed Spectrum public domain for the benefit of Spectrum owners everywhere. If you have any tips for using the *3-D Construction Kit* let me have them at the usual address!

PD SUPER DISK

The world of Speccy public domain software looks set to receive a big boost in the form of the *Plus 3 Super Disk*.

This is a PD compilation that fills the grooves of a Plus 3 disk with a varied collection of stuff that must have been forced in with a shoehorn, including:

- a database
- a speech synthesiser
- a basketball game
- digitised images of famous footballers
- *Axel F* music.

The Super Disk has been put together by Lee Davis who used to run the Plus 3D user group regularly mentioned in this column a year or so ago. He plans to release a disk of his and other's PD programs every month for the reasonable sum of £3 plus disk and return postage.

I'll be reviewing his first effort soon but in the meantime you can get in touch with him by writing to 3 Hendre Close, Rhuddlan, Clwyd LL18 5YE.

Naturally, Lee is on the look out for PD donations of all descriptions to include on future disks so if you have any utilities, games, demos or routines that you'd like others to get some use from send them to Lee at the above address.

QUICK AND PAINLESS

Problems aren't usually solved as neatly and easily as this. If you own an Alphacom 32 or ZX printer you'll be only too aware of what normally happens when you attempt to print out a screen using the COPY command: the bottom

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two lines of the picture spookily disappear into another dimension and don't appear on the print out.

This is an unexplained mystery that someone should tell Arthur C Clarke about without delay.

In the meantime you can achieve glorious full screen print-outs with the aid of the very clever Chris Moore and the following compact and bijou program he's written.

Chris tells me: "The variable A, at the beginning of the program is the address where the routine is to be located in RAM and can be any value from 24500 (if this is the only BASIC program in memory) to 65408 (right at the end of RAM) depending on what other routines are in memory at the same time."

The only other thing you need to know is that the program only works in 48K BASIC.

```
10 REM FULL SCREEN PRINT BY
   CHRIS MOORE.
20 LET A = 30000: RANDOMIZE
   A: CLEAR A - 1: LET A =
   PEEK 23670+256*PEEK
   23671: FOR B=0 TO 127:
   POKE A+B, PEEK (3756+B):
   NEXT B: POKE A+2,192
30 LOAD "" SCREEN$ :
   RANDOMIZE USR A
```

Send your pokes, tips and cheats to Robin Alway, *New Computer Express*, 30 Monmouth Street, Bath BA1 2BW. Ta.

Robin Alway

PC

- **Intel announces the new 586 chip, sort of...**
- **The darkest mysteries of DOS 5.0 explored**
- **Windows culture shock for *WordPerfect* die-hards?**

EASE NOT HEAVY...

Those very nice database chappies at DataEase have given (to the chosen few) sneak previews of their Windows version of the *DataEase* DBMS (Database Management System).

Due out towards the end of this year, the new program features user-definable templates which allow existing DOS-based applications to be launched as Windows applications. It will also allow images to be displayed in its Windows applications.

SILLY SPEEDS

Intel, not content with the imminent release its 50MHz 486 decided to fry a few brains with the announcement of a new set of chips that will run at extremely silly speeds.

Intel's 1992 plans include a 66MHz 486 and the first release of the superscalar 586. Actually, Intel never actually called the chip the "586". Instead it referred to the new RISC-based superscalar chip as the P5, its code name. However, everyone knew they were talking about the 586 so knowing winks and nudges were in plentiful supply.

Here's a few specs to water the proverbial mouth:

- The P5 has three million transistors and a greater reliance on Intel's RISC core instruction set surrounded by the logic needed to maintain backward compatibility with existing 8X86 systems, and will push Intel over the 100 million instructions per second (MIPS) mark.
- The P5's superscalar design, capable of handling more than one instruction per clock cycle, is particularly attractive to systems designers because it will be capable of increasing the processing power at lower clock speeds without requiring ever greater clock speeds. Running at 50 MHz, such a product would deliver power as great as 160MIPS.

WINDPERFECT HITS BETA

Although twice-delayed, the Windows version of *WordPerfect* has finally entered beta testing. The final release of the long-awaited Windows version of this popular word processor is slated for

Continued on next page ➤

AND THE BOOK OF THE WEEK IS...

...an excellent beginners guide to Windows 3.0 published by Hypergraphics called the *Simplified User Guide for Microsoft Windows 3.0*.

Written by Richard Maran and presented in a large format softback containing 80-pages this guide includes such basic actions as moving files, starting an application, and saving a file.

The great thing about the book is that it is heavily weighted towards annotated graphics rather than reams of text, which is sensible, as the subject is a Graphical User Interface (GUI).

So beginners who wish to save a file, for example, will be taken, step-by-step, through the process. Each step is represented by a different screen drawing, leaving the reader in no doubt as to what should be on the screen after each perilous step has been taken.

If you wish to take the Windows plunge but find the whole thing a little too daunting buy this book to calm the nerves. Priced at £11.95 and available in the UK via bookshops, computer stores or from Computer Manuals.

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4Mb	361.15	402.00	551.85	686.25	1383.15

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◄October, according to Pete Peterson, executive vice president for Wordperfect who admits that the move from a function-key oriented program to the graphical version of *WordPerfect* might be "a little painful" for die-hard *WordPerfect* fans.

"There might be some cognitive dissonance," Peterson said.

This exclamation prompted furrowed brows from attendant journos and the mass scanning of the *Oxford English Dictionary*.

FRAMEWORK IV IN THE UK

Ashton Tate has announced the UK release of its database software *Framework IV*.

It offers proportional fonts (supporting up to 60 internal, cartridge and downloadable fonts per document on HP's LaserJet and DeskJet series, Canon LBP and compatibles), better access to dBase files and enhanced graphics capabilities (annotate graphs, improved fill patterns, etc).

Framework IV will set you back for £550. Network access packs, supporting five users, cost £995.

☎ Ashton-Tate is on 0628 33123.

DOS 5 CORNER

As promised, here is the first in a series of DOS 5.0 techie hints and tips.

When creating large hard disk partitions on systems that previously used more than one logical partition, a number of problems arise that may fool the new "user-friendly" DOS 5 installation routine.

To install DOS 5.0 and create new, large partitions, first install DOS on the system and create a bootable floppy disk (using the 'A:' floppy drive). The drives must be backed up, since creating a new partition destroys the data on the hard disk. Then boot from the DOS 5.0 floppy and run FDISK, also on the floppy, to create your new, large disk partition.

Finally, format the partitioned hard disk, install DOS 5.0, and restore your files from your backups.

After conversion, any path statement in AUTOEXEC.BAT that calls for files on the now deleted drive(s) will be unable to find the desired files. If you move your programs and data to a different drive or directory, you must change your DOS path (in the AUTOEXEC.BAT) file, WIN.INI, and certain other files to reflect the new location of your files.

You can make these changes manually from within Windows by changing the PIF information or you can re-install Windows, which will automatically scan your drive(s) to locate Windows and DOS programs it recognises and create program groups.

One more point. Attempting to install DOS 5.0 on to drives that were created using special partitioning software may cause problems, including the loss of data and the inability to read your drives.

If you have such software you would be best advised to scratch your existing partition and start again.

Paul Rigby

MACINTOSH

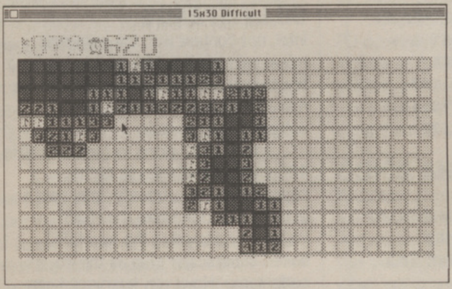
- **Faster and more reliable: the latest Apple CD-ROM**
- **The new generation of techno-speak in System 7**
- **How close to reality is the RISC-based Mac?**

BOMBS

A new public domain game by Christer Ericson found its way on to my Macintosh a week or so ago. Called *Bombs*, it's based on a PC (spit) game called *MineSweep*. The object is to locate all the bombs in a minefield, guided only by information as to the number of bombs adjacent to a small number of locations.

If you click on a location which is 'clear', you are then told how many bombs are adjacent to that square. If you click on a location containing a bomb, it's curtains. You can lay down flags to mark suspected bomb sites, and the game ends when you have marked all the bombs. It's harder than it sounds(well, I think so, anyway).

The game is available from the 'mac/files' topic on CIX, or should be appearing at user groups and shareware houses in the near future. Be warned, though: like most apparently simple games, it's bloody addictive!



• **Bombs:** ***a complex version of Battleships available on CIX.***

RUMOURS...

About three days after I submitted my last column, Apple announced its new CD-ROM drive. You may well have read about it in the main body of the magazine by now, but in case you haven't, the new machine, called the Apple CD SC Plus will cost £610 plus VAT or thereabouts, and claims a 25 per cent speed increase over its predecessor.

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Compatible with both the Macintosh and the Apple II (remember those?), it is claimed to offer "increased reliability". Those with any experience of the earlier model will be pleased by that – the original CD SC had a notorious reputation for being error-prone. In fact, only the early models had the problem: Apple had built a fan into the unit which actually blew dust at the laser lens, causing all sorts of read errors.

The modification – which was free from AppleCentres for a while, proving Apple's embarrassment at the boob – consisted of disconnecting the fan. So what was it for in the first place…?

John Sculley, Apple's Chairman, Chief Executive Officer and anything else you care to name has said that he feels that the forthcoming release of Lotus *1-2-3* for the Macintosh is "a very important product."

He was speaking at a Lotus conference and heaped praises on the new product. Apple obviously feels that *1-2-3* will help to encourage businesses to purchase Macs rather than PCs.

What Microsoft, whose *Excel* spreadsheet is owned by 90 per cent of Mac spreadsheet users, and Claris, the Apple subsidiary which has just released its own spreadsheet, *Resolve*, think of Mr Sculley's comments is unknown…

APPLE AND IBM

Also hot on the heels of last week's column came the joint announcement of 'Things by Apple and IBM'.

Although the old chestnut of multimedia came up, the most interesting thing is the concept of a RISC-based Macintosh at some stage in the future.

Don't hold your breath too long, though; the entire operating system will have to be re-written to take account of the chip's new command set, and you know how long it took Apple just to modify System 6 into System 7…

Apple's other option, of course, is to build a 68030 emulator into firmware, so that it could just plug its existing operating system code into a new machine – the emulator would translate 68030 instructions into the RS/6000's native language.

Although this would significantly slow the machine down, reports about the power of the RISC chip involved suggest that a Mac which used this idea would still be far faster than a Mac IIfx. And it would, of course, be on the market a lot sooner…

PRODUCT NEWS

- ● Cache Connection has just launched some new games: *Canis*, *Blackjack Strategy Tester*, *Puzzle* and *Casino Master*. I'll be reviewing some or all of these as soon as I can get my hands on copies, but if you can't wait give Cache Connection a call on 071-407 3463. Expect to pay about £30 per game.
- ● System 7 will not be shipped with the Mac Classic 1/floppy (1Mb RAM and no hard drive).

Although it is to be boxed with all other versions of the Macintosh, Apple clearly feels that it would prefer to ship a version of the operating system which actually works on the machines that it sells – there's no way that System 7 would work on a 1/floppy, so System 6.0.7 will continue to be boxed instead.

Indeed, users with 2Mb Classics report that, although they can install System 7 with few problems, it is difficult to find any application larger than *TeachText* which will actually run in the remaining memory.

Ian Wrigley

POSTCARD FROM AMERICA

There are so many new features in System 7 that new words were invented to describe them. Here's a little System 7 Semantics Quiz:

1) Tunneling is:
- **a) The action of a computer worm virus.**
- **b) Surgery that restores feeling to your fingers after too many late nights playing computer games.**
- **c) The result of holding down the mouse when opening a folder.**

2) Persistence is:
- **a) The secret of getting ahead in the marketing.**
- **b) The thing we all hate about people in marketing.**
- **c) What causes icons and window to stay where they're put on the desktop.**

3) Adornment is:
- **a) Wearing pearls with your T-shirt.**
- **b) Changing something in a subscribed document.**
- **c) What some hackers call brushing their teeth.**

And the answers are:

1) c. This causes the previously opened window to close, when the folder is opened.

2) c. A very annoying habit of previous systems was the bullheadedness of icons on the desktop. No matter how many times we'd move them to exactly where we'd want them, they'd always return to their default position later.

3) b. One of the hot features of System 7 is Publish and Subscribe. It allows you to take text or graphics from one application (the publisher) and use them in another (the subscriber) while still having active links to the originating document. Changes in the originating document, are reflected in the subscription. Published material is called an edition. Additions to an edition are called adornments.

The trail of published and subscribed material doesn't have to be a single step. A chart from a spreadsheet might be brought into a drawing program, before it lands in a page layout program.

David Morgenstern

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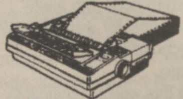

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WHOLE WIRED WORLD

The world is your oyster and Steve Gold finds the pearls – Toshiba adds three new portables to its range, the European Commission investigates corruption in the floppy disk market and Wordperfect users get to build soft fonts with Laserjets

ONE IN THE EYE FOR NINTENDO – THIRD PARTY COULD NOW BE LEGAL

In San Francisco, US district court judge Fern Smith has ruled against Nintendo America in its copyright infringement suit against Lewis Galoob Toys' `Game Genie' video console add-on system.

Nintendo had originally argued that the system, which Galoob calls the world's first and only `video game enhancer' infringed its copyright.

The enhancer allows players to freeze and peek/poke games on the Nintendo so that the game can be slowed down, frozen and infinite lives can be entered. All levels of each game can also be explored. In a statement from the company's Washington offices, Nintendo said that Judge Smith's written order and decision will be issued in the near future.

Pending that order, the judge has modified the preliminary injunction to permit Galoob to begin manufacturing its Game Genie system. "Galoob is not permitted," Nintendo's statement added, "to promote or distribute Game Genie until the order and decision has been issued, so that Nintendo can determine whether to seek a stay of the decision from the 9th Circuit Court of Appeals."

Nintendo vice president Howard Lincoln is quoted as saying that his firm continues to believe the Game Genie product "infringes valuable Nintendo copyrights," adding: "Nintendo anticipates that it will appeal Judge Smith's decision to the 9th Circuit Court of Appeals once its attorneys have studied the court's written opinion."

Galoob is reported to be jumping for joy over the court's decision. Plans are in hand to boost production of the video game enhancer for sale overseas. Watch this space.

BORLAND BUYS ASHTON-TATE

Borland has moved quickly to acquire fellow, but struggling, software producer Ashton-Tate. Under the terms of the agreement, which was approved by the boards of both companies in mid-July, Ashton-Tate shareholders will get $17-50's worth of Borland shares in exchange for their shares in A-T.

So what does this mean for Ashton-Tate and, perhaps more importantly, for users of its software? In a word – continuity. A-T has been struggling for some time. But Borland has been doing phenomenally well in the software stakes, taking on the likes of Lotus and Microsoft and in many cases, has won.

A-T is best-known for its DBase database software. Borland, meanwhile, has been signing up third-party companies to license its Paradox relational database software engine. Paradox is big news at the moment, so the linking of A-T's DBase technology with Borland's Paradox represents a major step forward for database software users.

EC INVESTIGATES FLOPPY DISKS

The European Commission (EC) has started a major investigation into the price of 3.5-inch floppy disks after several European manufacturers complained of dumping of products by Far Eastern suppliers.

If the EC finds against the Far Eastern suppliers, then a tax could be levied on disks, forcing prices up. According to Rhone Poulenec of France, Boeder of Germany and Computer Supports plus Balteadisk of Italy – Chinese, Taiwanese and Japanese suppliers are supplying large quantities of 3.5-inch disks which are surplus to requirements at cost, and even below cost, on to the European market.

EC disk suppliers had complained that imports from the Far East tripled between 1988 and 1990 after prices were cut in half. As a result, they allege that the Far Eastern supplier's market share jumped from 31 per cent in 1988 to 44 per cent in 1990.

PC INTERFACE FROM SONY

Sony unveiled its next major new product at the PC Expo show in New York last month – the Vbox system.

Vbox is essentially a black box that sits between a PC and audio visual devices, and allows the PC to control most, if not all, of the audio-visual device's actions.

The idea is simple – to allow PC users to drive their camcorders, video recorders, Compact Disc and other electronic gizmos using their PCs. Video images can be edited on the PC and then saved to the VCR as required.

VBox will save the annoying frame jitter you get when editing a video tape without a VCR with flying erase heads.

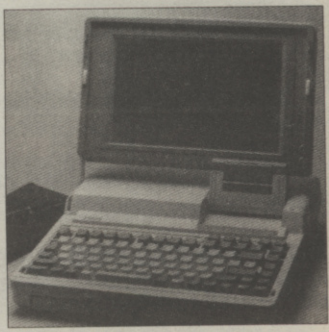
VBox, along with several applications packages, will be released this Autumn in the US. Plans call to release the system on this side of the Atlantic early next year. No pricing details have been released yet, though the system is aimed at budget users.

Contact: Sony Computer Peripheral Products, 655 River Oaks Parkway, San Jose CA 95134, United States. Tel: 0101-408 432-0190.

TOSHIBA'S NEW PORTABLES

Toshiba's US operation has added three new machines to its T2000 portable range. The three machines are the T2000SXe, the T2000SX and the T2000. All three machines tip the scales at seven pounds and feature a side-lit, black and white VGA compatible display.

Other features include a 3.5-inch floppy drive plus a new-style 86-key keyboard. The T2000SXe is built around Intel's 20MHz 80386SX microprocessor and comes with 2Mb of RAM and a choice of 40 or 60Mb hard drives. Pricing has been set at $4,199 and $4,499 respectively.



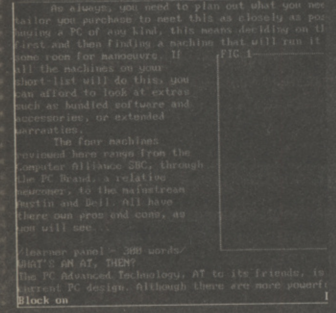
• Toshiba has added three new portables to its range – new features include a 3.5-inch disk drive , a new style keyboard and a built-in Intel 20MHz microprocessor.

The T2000SX, meanwhile, is similar except that it features a 16MHz 80386 microprocessor and just 1Mb of RAM. Hard disk options are 20Mb ($3,399), 40Mb ($3,749) and 60Mb ($4,049). The third model is less state-of-the-art in the microprocessor section, being based on a 12MHz 80286 microprocessor. A single-floppy machine costs $3,149.

Toshiba has made two major improvements to the T2000 series. The machine's casing is around 30 per cent thicker than previous Toshiba machines and the batteries are nickel-hydride batteries lasting an extra 50 per cent compared to ni-cad units. The battery on the basic T2000 is a standard ni-cad.

Expect to see these machines in the UK in late August/September, though shipments could take a little longer. Based on previous experience, watch out for the GT6000 to be released in the UK in the third quarter of this year. ■

WORDPERFECT GETS A LASER FACELIFT



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      As always, you need to plan out what you nee
tailor you purchase to meet this as closely as pos
buying a PC of any kind, this means deciding on tl
first and then finding a machine that will run it
some room for manoeuvre. If          FIC 1
all the machines on your
short-list will do this, you
can afford to look at extras
such as bundled software and
accessories, or extended
warranties.
      The four machines
reviewed here range from the
Computer Alliance SBC, through
the PC Brand, a relative
newcomer, to the mainstream
Austin and Dell. All have
there own pros and cons, as
you will see.

/learner panel - 300 words/
WHAT'S AN AT, THEN?
The PC Advanced Technology, AT to its friends, is
current PC design. Although there are more powerf
Block on                                          I
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• Wordperfect gets a facelift – users can now build soft fonts for Laserjet printers.

Wordperfect is one of the most popular word processing packages around at the moment, if the figures are to be believed.

The package is good, but some laser printer users find that they don't use the full capabilities of their laser printers with the package. Enter Facelift, a 295 Dutch Guilder package from Bitstream in Amsterdam.

The software allows Wordperfect users to build soft fonts on the fly for the Hewlett-Packard Laserjet family of printers, as well as close compatibles. It comes with 13 typeface outlines, including four styles of Swiss and Dutch, plus four decorative faces (Park Avenue, Bitstream Cooper Black, Brush Script and Formal Script), and a monospaced version of Swiss. Other typeface packages are available, including a Facelift Companion package that features no less than 24 typefaces.

Contact: Bitstream, Stravinski Laan 513, 1077XX Amsterdam, The Netherlands. Tel: 010-3120-5753020, Fax: 010-3120-5753009.

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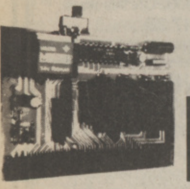

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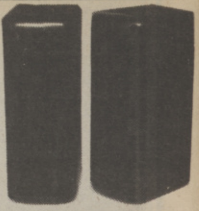

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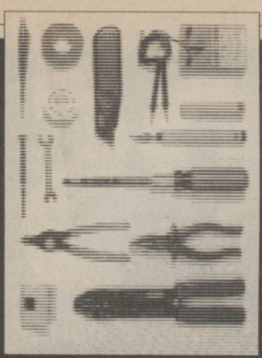


CIRCUIT CITY

What do all the tehno-terms, often used by people in the computer industry, mean? This week Tim Howell and Keith Pomfret go jargon busting

OPERATING SYSTEMS – WHAT MACHNES THEY WORK WITH

System	machine
CP/M	Amstrad CPC/PCW and older 8 -bit business machines
AmsDOS	Amstrad CPC
TOS	Atari ST
DOM-S/DOS	Armitage Ware
MS/DOS	PC
Pc/DOS	PC
DR/DOS	PC
AmigaDOS	Commodore Amiga
RISCOS	Archimedes and A3000

The computer world has the lion's share of acronyms, abbreviations and technical terms. It also has more than a world's share of languages.

To a newcomer, this sea of jargon is probably more of a deterrent than all of the hardware and software put together. We've kept a list of the questions that come up on a regular basis and this week we're giving you explanations of those techie terms and languages.

When you buy a computer, even if you intend to do no more than run applications, there's always the thought of writing a program. Most personal computers come with BASIC and programming in BASIC is as far as many programmers get. Many other fine languages are thus ignored, such as:

BASIC is an acronym for Beginners All-purpose Symbolic Instruction Code. In a lot of 8-bit machines, it is built into the machine on a microchip. Most other machines offer BASIC as part of the package as software to be loaded from disk.

BASIC is easy to understand and de-bug because the operations are described in English and it uses self explanatory key-words such as GOTO, NEXT and RUN.

ALGOL is another acronym and stands for ALGorithmic Oriented Language. It is out of fashion nowadays, but was a popular number crunching language in the 1960's, especially with maths and scientific mainframe users, but is a rarity on the desktop.

Assembler. A low level language that uses individual mnemonics to work one to one with machine code instructions. It is a low level language, only one step up from machine code and not for the faint hearted. Most commercial games are programmed in Assembler.

COBOL. Combined Business Oriented Language. One of the oldies, developed in the late 1950's biased towards applications rather than number crunching

FORTRAN. FORmula TRANslation language. The most common and popular of all the mainframe number crunchers. Still popular with programmers writing for power machines.

'C' A high level language much in vogue. C allows a freestyle approach to programming that can make for some innovative programs, but it requires a disciplined programmer to make the best of it.

Machine Code. The most basic of all the languages. This one bears no resemblance to the real world and instructions are in hexadecimal. In real terms no-one programs directly in machine code, most games programmers chose the more friendly Assembler.

Pascal is a high level language, similar in some ways to the popular 'C', but much more structured. By insisting on a disciplined structure Pascal (named after a French mathematician of the same name).

There are many other specialist programming languages available and an article this short can't hope to cover them all. ■

FROM A TO M – WHAT ALL THAT JARGON ACTUALLY MEANS TO YOU

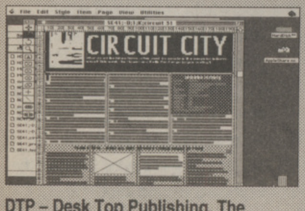
Listen to a pair of technocrats talking and you could be forgiven for thinking that they're speaking a different language. It's not really that difficult to follow if you have a few clues to help you. This week we'll cover the first half of the alphabet:

BABT – British Approvals Board of Telecommunications. The body that decides who can plug in what to the phone lines.

CAD – Computer-Aided Design. Tools to help with the design and architecture of buildings, microchips, etc.

CCITT – Consultative Committee International Telegraph and Telephone. The body which decides the frequencies and rates of telecommunications protocols, including telephone systems and modem baud rate standards.

CISC/RISC – Complex Instruction Set Computer/Reduced Instruction Set Computer. A CISC machine is a fast and powerful machine run on an advanced chip-set. A RISC machine is similar, but it has fewer instructions, increasing the throughput and frequency of what it does.



DTP – Desk Top Publishing. The publishing of cards, magazines, newspapers and other documents using a computer and a printer.

CMOS – Complimentary Metal Oxide Semiconductor.

CPU – Central Processing Unit. The brains of every computer, through which the computer controls and monitors other devices, ie, memory and sound chips.

EPROM – Erasable Programmable Read Only Memory. A chip that can be programmed, erased and re-programmed. Usually used for pre-production operating systems or in cases where the ROM needs to be upgraded every so often. Also an affordable way for hobbyists to create ROM systems.

GIGO – Garbage In Garbage Out. An early term used in computing, referring to the spiels of cards that were put in and came out of early computer systems.

GUI – Graphical User Interface. A way of controlling your computer, through the use of pull-down menus and a pointing device. It uses windows and graphics to control and give feedback on what is happening in the machine.

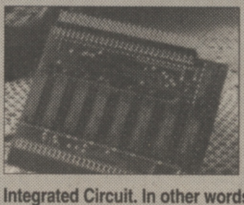
HEX – Hexadecimal notation. A system of numbers and letters, often used for inputting programming commands. The system runs from 0 to 9, plus the letters A to F – a base 16 system of counting.

I/O – Input and Output. A way of referring to the way information is distributed and used within a computer. This can include digital information within the computer itself, or from the hardware interface ports such as output to a printer, input from a mouse.

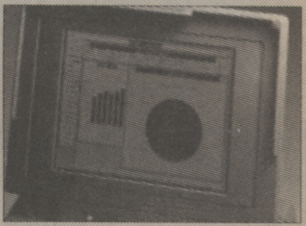
IPSS – International Packet Switch Stream – a telephone line data transfer protocol which encapsulates the data into discreet packets for transmission.

ISBN – International Standard Book Number. The catalogue listing system of books and publications.

LED – Light Emitting Diode. Another electronic way of displaying information, not so much as display screens, but as 'lights'. The power light on your computer is probably an LED, as is your floppy drive or hard disk indicator.



IC – Integrated Circuit. In other words, chip. The fundamental components of your computer, performing many different functions. They also look like black bits of plastic with legs.



LCD – Liquid Crystal Display. A display which uses crystal cells to depict text and graphics. Often black on white, or visa versa, although colour LCD screens are becoming popular. Most calculators have mono LCD screens, while games consoles like the Atari Lynx and Sega Gamegear use colour LCD screens.

LOGO – A high-level computer language. Involves moving and using a turtle to draw graphics. LOGO is often used in education as a friendly way of introducing children to computers and programming.

LSI – Large Scale Integration. A microchip architecture, managing to fit millions of instructions into a chip.

MIDI – Musical Instrument Digital Interface. A system to control and program electronic musical instruments.

MODEM – MODulator-DEModulator. A device to transmit computer data over the phone lines. The modulator converts the data to audio tones and the demodulator on the modem at the other end converts the audio tones back to computer data.

TECH TIPS

Do you want your character stripped to the bone? Does your PCW need a serial port in a storm? Need 128 on-screen colours on your Spectrum? Read Keith Pomfret's Tech Tips

Text stripper

When I import text files from a word processor on the PC, there are all sorts of extra characters on screen and lots of carriage returns that aren't needed. How can I get rid of these characters? Is there a way to avoid having these characters in the first place? What about the carriage returns – can they be globally disposed of while leaving the ones that I want to keep.?

Incidentally, the ones that should be kept occur in pairs while the 'spare' ones are single.

This may seem like a trivial query, but I have over 200,000 words of reports on PC files that need converting. A simple 4,000 word report took me the best part of a morning to sort out. If I can't get the problem sorted out myself, I will have to go back to the PC and that will never do.

Martin Fairey, Gateshead

• Using a word processing package like Protext 5 which has a search and replace facility, you can get rid of extra characters.

YOU HAVEN'T mentioned what machine you are attempting to import the text files into, but more importantly, you haven't said which word processor or DTP package you are using on either machine so any answer I give will have to be generic.

In order to get rid of all the extra characters, you will need to use a word processor with a search and replace option. If it is an advanced one it will have a facility to allow you to highlight a letter or string of letters and then save that letter or letters using a cut facility.

You should then activate the search/replace function and paste the letter in.

If you haven't this advanced facility, you'll have to work out (possibly by trial and error) which key combination gives the letter which you need to replace and do it that way. Replace the letter with nothing and you have solved that problem.

To get rid of the extra carriage returns, replace the double returns with a pair of letters that don't normally occur together (QQ is a good example), and then remove the remaining returns in the same way that you removed the extra characters earlier.

Replace the 'QQ' characters with single carriage returns and the job should be done.

Another alternative if you still have access to a PC and the word processor that the files were created on, is to load the document back into the package it was created in.

The extra characters that you are finding on the line are probably, spaces added as a result of text justification. Get rid of justification and any other intelligent formatting and save the file as ASCII text. Re-import this into the new word processor and you should have clean text without any of the problems that you mentioned.

PCW modem

A PCW that I bought had over 100 disks of software and assorted text files with it.

One of the programs is MEX. The documentation that is on the disk with it describes it as a very powerful suite of communications software for CP/M machines.

To get myself on-line, I bought a second-hand Hayes compatible modem, but I can't find anyone who will make me up the lead necessary to connect the modem to the PCW.

The documentation is scanty, but it looks like the modem must plug into the edge connector at the back (it surely couldn't plug into the printer port... could it?).

Muriel Walsh, New Romney

THE PCW doesn't have a serial port as such so you can't directly plug a modem into it. What you'll need to do is buy an expansion box that has a serial port and connect it to the edge connector on the back of the PCW.

There are a couple of serial expansions available from most computer dealers that stock the PCW. Look out for one that includes a parallel port too as this allows you the luxury of adding different printers to the PCW and will enhance the printed output.

Turbo Spectrum

My friend Alastair has written a Zilog 80 machine code prog which so far can display 128 colours on-screen at the same time!

The program is top secret. This is four times as many colours as the A500. The program is still at an experimental stage and we are trying to find out how to set 4096 on-screen.

The colours are very good, but as you get more and more on screen they start to flicker.

When we say 128 we mean including bright. I will be interested to know if you believe me. It will certainly be a laugh to see the trusty 48K showing 128 colours!

Adam Ditomasso, Carrbridge

GOOD LUCK to your matey Alastair and we'll be waiting with baited breath to see the enhanced version with eight channel NICAM sound and a built-in disk drive and pizza oven...

Bigger disks

I have found a way of getting 959488 bytes out of a double sided, double density disk on the Atari ST without the risk of data loss. Using a disk formatter, you must select 85 tracks, 11 sectors, and 6 interleave.

I have tested this by copying files on to a disk formatted like this and deleted them and it has worked every time.

By the way, can you tell Michael Checkland at the Beeb to put a decent computer programme on in place of *Eastenders.*

Gareth Haslip, Telscombe Cliffs

WE APPLAUD your disk utilisation techniques, but in order to guarantee that the job is done, you should completely fill the disk with known files, then verify each and every file against a known copy of itself.

This will prove that the disk has held each file without corrupting it. Do this twice for each disk but seriously, ask yourself whether with disks costing only a few pence each, taking a new untried format is a wise idea.

Why not combine your TV idea with the current *EastEnders* series? Imagine how much a NeXT machine would improve Dot Cotton's living room or how Ian Beale's productivity could increase with a Mac.

Lead by example, that's what we say and even now, a mainframe is trundling up the M6 on the back of a lowloader bound for Alf Roberts' shop.

Many things

I have an Atari 520STFM upgraded to one meg, and a Syquest 44 Mb removable hard drive which I use with an Emax II sampler. My question(s) is:

- **Can I connect the HD to the Atari?**
- **Can I connect the HD to the Atari and have the Emax connected also? I hoped to be able to switch from one to the other by just switching cartridges (HD is standard SCSI).**
- **What cables do I need?**
- **What software do I need?**
- **How much will it cost?**
- **Where can I get it?**

Another question: My Atari has been upgraded to one meg (by the previous owner), but I need to upgrade to at least two megs. How can I add in the extra memory?

And finally, my last query. By now I'm sure you've guessed that I use my Atari for music. My problem is that I need to move the keyboard around a lot.

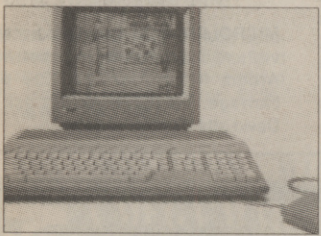
Not much fun with an Atari. What I need is a PC style keyboard. Rather than buy an expenive kit like the Lighthouse Tower, I have obtained an old Atari case and keyboard.

The keyboard and its board and chips all seem fine. I was hoping to cut the case to a PC size and seal it, and connect it to my Atari. My question is:

- **Can it be done?**
- **How can I do it?**

I would prefer to be able to use both keyboards, but I would probably only use the mouse and footswitch from the original Atari.

Val Wallace, St Helier



• The ST comes with one keyboard, but adding a second one shouldn't prove difficult.

REGARDING your question as to whether you can connect the Syquest hard drive to your Atari, the simple answer is that you can't. The Atari doesn't come with a SCSI port as standard and while you might be able to get one for it, the added expense might not be worthwhile. There is bound to be a less orthodox way of hooking the two together, but again, the cost in terms of time, effort and cash outweigh the benefits.

To upgrade your Atari's memory, get in touch with Ladbroke Computing in Preston on 0772 203166

As for your final question, it is possible to connect another keyboard to your STFM, but be warned that as soon as you take the case apart you will invalidate any warranties you have on your machine. And if the warranty period has expired, be extra careful – we can't be responsible for what may happen if you follow these steps. Remember that whenever you take apart your machine, always be sure the power is turned off.

Hooking up the keyboard should be pretty straightforward, as long as you take note of a couple of things. The old Atari case and keyboard should be alright to use, but the old keyboard must be removed from the motherboard which is below it. Don't think of cutting the motherboard to make it smaller, if you don't want it there then just take it out, taking care not to upset the keyboard connections.

Connecting the keyboard cable to your main computer should be a matter of joining the appropriate wires, but because the STFM has a special keyboard controller, it can't handle having both keyboards connected at once. To get around this, put a switch between the new keyboard and the connection on the motherboard. This will let you use only one keyboard at a time, but then you don't really need to use both at once, do you?

HELP Monitor magic

Can you tell me if there is any way I can connect an Amstrad 9512 monitor to an Amiga? If there is – where can I have a lead made for it?

John Sinclair

THE AMSTRAD 9512 paper white monitor can be made to work with an Amiga, but it's not as simple as connecting a lead. The composite mono output on the Amiga provides a signal that can be connected to the 9512 monitor but only internally.

What you'll need to do is get a competent computer repair company to attach a connecting cable to the monitor internally terminated with a phono plug to connect to the Amiga. A switch would necessary to enable the 9512 monitor to be used either from its own internal circuitry or from the external Amiga.

If you can't find a firm locally that will take on the conversion you could try Simpson Electronics on 0332 760353.

HELP Hard driving

Please could you help me. I have recently been lucky to come by a NEC hard disk (model number LR62937 – I think!) and was wondering if it was possible to connect this to my Atari STE. I think it should be, but I am not sure what connections I have to make to get it working properly.

Also, I think there should be a little battery situated in the centre of the circuit.

I also own an Apricot Xi computer on which I run WordStar, but so far I have had no success in printing out from my Epson printer – it just jams up. What could the problem be? By the way, I think your column is brilliant – a great addition to a good magazine.

Tim Blundell, Anglesey

YOUR HARD DRIVE isn't STE compatible at all so you may as well find some PC owner who has a compatible controller card and would like to give it a good home.

Your problem with the Apricot and Wordstar is possibly the driver software. Load up and run any program that you know has an Epson driver and try to print from it. If it works, your cable's OK. If it doesn't, get your cable checked and try again.

Once you've persuaded the printer to work with the machine, it's a matter of finding the appropriate driver software to make it work properly. If none is available from your usual supplier, the PD and Shareware libraries are the place to look. If you've a modem you could check out *Express* On-Line too.

HELP Mega noises

I've got an occasional problem with my Mega 1 ST. It concerns the internal disk drive. The noise it makes has always been a lot more than the emanating for my external drive, but recently the motor has tended to 'stick' after loading up the required program or whatever.

Even if I activate the B drive, the A drive light stays on. I saw an advert recently for a replacement 'original equipment' drive, but I am wondering where the problem lies. What do you advise?

With a hundred million thanks in advance as I've always been a firm believer in the adage that a little grovelling gets you everywhere, I am.

Angie Davies Bideford

STOP RIGHT THERE. Don't try anyone else. Take your machine to a reputable dealer/repairer and tell them it's making expensive noises. It is better to spend a few bob on a diagnostic check now than risk a large bill later. If equipment is making unusual noises there is probably something wrong with it. ■

Write to Keith Pomfret,
Tech Tips, New Computer Express,
30 Monmouth Street, Bath BA1 2BW.

TIP! From King of the Castle

Remember me? Yes the SYSOP of the 'King of the Castle' the bulletin board is still going, still on the original times, but I am no longer running on Bulldog,

I switched over to ROS about a year ago, I still have Bulldog, but found it was getting slow, mind you I still like it, but ROS is FASTER!

Anyway I thought I would drop you a line to give your users some information on two items computer related that have come to my attention.

I notice that in one of your recent past issued of *Express*, in the ST section, I believe Andy Hutchinson made references to the RAM upgrade from FRONTIER as being a good purchase, but I'm not so sure Atari was of the solder MMU types, and I had to cut the ribbon cable, and solder each wire either to a resistor or leg of a memory chip.

The soldering side is not one to be undertaken by an amateur, (and I am not the best solderer by any means!), but I succeeded and my Atari was now a one meg machine.

However problems occured, and I had trouble getting "Dungeon Master" & "Chaos Strikes Back" to FORMAT disks within software, anyway to cut a long story short, I had to return the upgrades to Frontier for testing, they said they'd replace it.

It still failed to format, next I took it to Mirrorsoft (incase the disk was faulty), but it passed fine on a 512 Kb STFM. Finally it turned out to be the RAM upgrade was incompatible with both items of software, and after Frontier had kept my machine for over 2 weeks to try and fix the problem, they admitted defeat and gave me a full refund of my money.

So the FRONTIER upgrade is NOT 100% compatible with all software! However I now have the Evesham one and all seems fine on all software. (but there are more to my tales of woe, but not for publishing, drop into the BBs and I will fill you in on that).

My second user info, is that I discovered a bug in Domark's 3D Construction Kit, that affects all Atari STFM users who have a v1.2 TOS operating system, the problem there is that is they use the SAVE DATA option, remove the MASTER DISK and insert a blank disk to save the data, and then when it's done, re-insert the MASTER DISK the Atari loses track of the directory structure.

In other words it does not recognise the disk has been changed. I reported this to Incentive and they have tried it on a v1.2 and have agreed this is a bug, and on return of my MASTER DISK to Paul Gregory of Incentive (Tel No: 0734 817288) they amended the bug, returned the disk to me by next post and even refunded the postage!, that is what I call excellent service – thank you very much Anita Walker (Admin Manager at Incentive).

If any users have 3D Construction Kit and are not sure which version of the TOS they have on their machine they can ring my BBs (20:00 to 6:45 any night) and can download a utility which will give them the necessary information.

Chris King, Ashford

THANKS FOR THE TIPS, Chris. It's good to see the bulletin board still flying high and using the whizzier ROS software and it only remains for me to say that anyone who has a modem and doesn't visit the King of the Castle BBS should be taken out and shot. There. How's that for a plug?

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30 BLANK disks unused, high density and double density £17 plus p+p. First come first served. Write to Malcolm Jacques, 8 Paisley House, Kershaw St, Laisteroyke, Bradford, B03 8PA.

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TESTING ON NEW GROUND

Do you find writing programs too much like hard work? Mary Branscombe takes the strain from your brain with new releases for testing and debugging

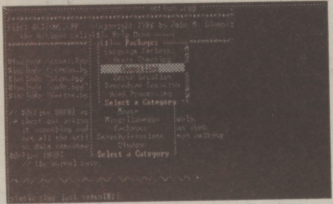
When you're testing and debugging a program, you'll find that you're typing in the same entries again and again as you discover and fix the bugs. It's a tedious job that has to be done if your program is going to be any good, and anything that makes it easier will certainly be welcomed.

Ghost is a software testing tool for DOS programmers that works by recording keystrokes that you can play back at any time to repeat a test.

Ghost records the keystrokes at the DOS interrupt level, so it works with any programming language. The keystrokes are stored for future use, so you build up sets of tests to use on new versions of code. You can look at the difference between the output from different versions of a program on screen or print them out as a report. Ghost costs £99 from The Software Construction Company (0763 244114) ; a simpler version, Ghost Junior, priced at £49.

PC PERIPHERALS

Brief is one of the most popular text editors for the PC and the Software Construction Company is bringing out a range of other programming tools and utilities to work with it. The latest is *Briefor* C++, which works with *Brief* to give you a pop-up C++ class browser. The browser works with a number of files, swapping them in and out of memory as needed. You can look at function definitions and the declarations of classes, member variables and member functions or derive new classes from within the browser.



• Browse your way around your PC with **Brief** *and a pop-up version,* **Briefor C++.**

If you want to know more about the relationships between different classes, you can generate reports on the hierarchical structures of classes, on member classes, member variables and implementation files. *Briefor* C++ works with *Brief 3.1* and costs £99 until August 31.

YOU NEED UNIX

You can now run UNIX on Archimedes 400 series machines. Acorn's RISC iX 1.2 version of UNIX is compatible with UNIX System V and BSD 4.3, current major Unix standards in the workstation world, and it's certified as compatible with the X/Open user interface.

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Contact Acorn on 0223 245200.

HIGH SPEED COMPILING

HighSpeed Pascal is a Pascal environment for the Atari ST that's compatible with Turbo Pascal 5 for the PC, so that you should be able to transfer programs without much rewriting.

There's a multi-window text editor, a context-sensitive help system for the editor as well as Pascal syntax and interactive error detection at compilation and run time. The single pass compiler can write to disk or into memory and the system runs on any Atari ST from the 520ST to the new TT machines. It costs £99.95 from HiSoft on 0525 718181. ■

WHAT YOU NEED TO KNOW

QUESTION

I'm writing some word puzzle games in BASIC for the Commodore 64. Is there a way to pull apart words to get the first or last four letters to show as a clue?

James Adams, Bishop's Stortford

ANSWER

Yes, there's a very easy way to do this built into Commodore BASIC, using the LEFT$ and RIGHT$ commands – and MID$ if you want to take letters out of the middle of a word. $ is pronounced 'string', which means a sequence of numbers and letters. When you want a variable to hold a word, it's a string variable. If you want to store your name in a variables, you can use:

```
10 A$="JamesAdams"
```

If you want to takes some of the letters from the beginning of the string, you use LEFT$ and tell it how many letters you want and where to put them. To get the first four letters of the above string, 'Jame', the code looks like:

```
10 A$="JamesAdams"
20 B$=LEFT$(A$,4)
30 PRINT B$
```

If you want to take letters from the end of the string,'dams', RIGHT$ works in exactly the same way.

```
10 A$="JamesAdams"
20 B$=RIGHT$(A$,4)
30 PRINT B$
```

Taking letters out of the middle of the string with MID$ needs another parameter. As well as indicating how many letters you want, you have to tell MID$ which letters to start with working from the left. To get "sAd", you use:

```
10 A$="JamesAdams"
20 B$=MID$(A$,5,3)
30 PRINT B$
```

ANY QUESTIONS?

If you've got a problem with your program or you've found a better way of doing something on your machine, drop me a line: Mary Branscombe, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW.

PC USERS DEMAND DOS EXTENTION

Title: *Extending DOS*
Authors: Ray Duncan, Charles Petzold, M. Steven Baker, Andrew Schulman, Stephen R. Davis, Ross P. Nelson and Robert Moote.
Addison-Wesley
ISBN 0-201-55053-9
Price: £20.95

Users of the PC are getting ever more demanding. They want their applications faster and more colourful, they want to use larger files and many people are prepared to buy more memory for their machines to get what they want.

Despite the usual dire forecasts about chip shortages, memory for the PC is not too expensive – often about £50 to £70 a Megabyte. When early versions of DOS were written, 640K of memory was more than most users were likely to use. Although MS-DOS 5 can handle more than 640K of memory without extending, expanding or distorting the memory map, you can't rely on users having DOS 5. *Extending DOS* should tell you everything you need to know about addressing memory above 640K in the meantime.

Despite this book's host of authors, there's no overlap or contradiction between the different chapters because they're all experts in their own fields. This is a practical manual to using memory, that's aimed firmly at the application developer and it covers all the important standards, telling you how to make the most of them.

There's plenty of useful code in the book to integrate DOS applications with memory extenders and expanders, much of it in Assembly language. There are also details of interfaces to memory standards including EMS (Expanded Memory Specification) and XMS (eXtended Memory Specification) and the Virtual Control Program Interface. In this Windows-obsessed age, it's also good to see a section on writing programs to make the most of DESQView.

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It's new, it comes in a black folder.

Price: £49.99

It's simple to use, and it's here! The Big Alternative Scroller is now on sale. This is a self-contained titling program on one disk. The software enables you to type in credits, titles, display information etc, and scroll them either vertically or horizontally on your monitor screen and likewise onto video tape.

This program is so simple to use that you hardly get a manual, because you don't need one. Everything you could ever need is on the screen for you.

This program requires 1 megabyte of Ram.

SUPER-VHS 8802

At last, the Rendale Super-VHS 8802 is available. This high quality unit is based around the Rendale 8802, and offers additional features such as:

- Super-VHS in and out.
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EXPRESS ON-LINE

The *Express* guide to computing at the grass roots level this week featuring User Groups A to D

EXPRESS IS NOW ON-LINE!!!!
JOIN THE EXPRESS CONFERENCES ON ASPECTS (061-792 0260) AND CIX (081-399 5252)

NEW ARRIVALS ON-LINE

FANZINES

RE-RUN – For the Spectrum, C64, Amstrad CPC, ZX81 and BBC computers. Only 50p from: Robert Frosdick, One Northolme Close, Grays, Essex, RM16 2NX.

THE DISK – Send 50p for The Disk issue three for Amiga owners. Includes: Rattlecopy, PPAnim, Noclick 3.6 plus more! Half price offer one week only! Steve Lord, 6 Stubbing Brink, Hebden Bridge, W Yorks HX7 6LR.

CONSOLE CRAZY – New fanzine! With news, reviews and virtual reality sections. Only 80p to: 28 Watergate Lane, Woolton, Liverpool L25 8QJ. An even more amazing Issue two due out soon.

USER GROUPS

GUG (UK) – Geos User Group for the C64. Disk-based magazine packed with clip art, utilities, etc. Send blank disk to: GUG (UK), 110 Deansway, Woodloes Park, Warwick, CV34 5DQ.

AMIGA HELP SQUAD – Expert advice on any aspect (advanced programming) including CLI, DOS, Workbench, applications etc. Send disk and SAE: Steve, 151 Rough Common Road, Canterbury, Kent.

THE SIMFLY CLUB – The Simfly Club welcomes new members interested in flightsim air navigation. Send an SAE for details: 2 Henley Manor, Raincliffe Ave, Scarborough, YO12 5BU.

BULLETIN BOARDS

FREE FOR ALL BBS – On-line now! 24 hours. 1200/2400 baud. An Eazihost ANSI production on 0763 261624. No fees. PD for PCs, Atari STs and now Amigas. Host/link help.

CLIFFNET BBS – On-line seven days a week between 7pm-8am on 0642 469592. All speeds to 1200 baud. Sections for the ST, Amiga, PC plus sales, sysops and adult sections. Also a friendly sysop. More Amiga users needed although all welcome. Give me a try tonight.

PD LIBRARIES

WOODY'S PD – New ST library where you select individual programs to fill a disk. Send blank disk and SAE or three first class stamps to: Alan Woods, 34 Millingford Avenue, Golborne, Warrington, Cheshire, WA3 3XF.

ANGLO AMERICAN SHAREWARE – PC Shareware/PD. £1 a disk. Over 2000Mb of top Anglo American titles. Send two first class stamps for menu driven catalogue disk. 37 Devon Place, Newport, Gwent. Tel: 0633 259847.

PD COMPILATION DISKS – New PD compilation disks. Send SAE for details or £2.50 per disk stating disk (no 1-5). Write to: A Burns, 61 Coniston Road, Gunthorpe, Peterborough, PE4 6UL.

JPDL – Atari ST PD. Double-sided disks supplied whenever possible. Blank disk and SAE or 70p to: J Kilner, 120 Wigginton Road, Tamworth, Staffs, B79 8RW.

ESSEX SHAREWARE LIBRARY – Beginners pack of the best of PC shareware (spreadsheets, w/p, games, educational). Ten disks (state format) £14.99. Cheques/PO to Essex Shareware, 221 Branksome Avenue, Stanford-Le-Hope, Essex.

JACKSON'S PD SPECTACULAR – Amiga PD. For free catalogue disk send an SAE to D Jackson, 22 Victoria Court, Clifton Road, Worthing, Sussex.

KEVS PD (AMIGA) – Amiga PD. All latest titles, hundreds in stock only £1 per disk. P&P free. Write to: K Larkin, 12 Hathaway Court, Cheriton Road, Gillingham, Kent ME8 0ES.

DB SOFT – IBM shareware only £1.30 per disk. Send £1 for catalogue disk to: DB Soft, 29 Birchwood Drive, Ravenshead, Notts, NG15 9EE (BBS soon!)

TRIPLE X PDL – Triple X PDL is now closed. Do not write to us.

CHRISTIAN COMPUTER CONCEPTS – Christian PD and Shareware for PCs. 5.25-inch only. Disks £2 each including post and packing. Send stamp for list to: Ian Hurst, 7 Perrybrook Walk, Ashton in Makerfield, Wigan WN4 8TR.

PC-PD & SHAREWARE – All disks £1.50. Postage £1 per order. Send to: PC-PD, c/o GMC Computers, The Green, Cavendish, Suffolk, CO10 8BB. 0787 280526. Credit cards accepted.

SOLENT SOFTWARE PD – For the Atari ST. Full range, first class service. Send SAE for catalogue to: 53 Rufus Gardens, Totton, Hants SO4 3TA.

AMIGA PD – Amiga non-ripoff PD. Send disks, jiffy, 41p stamp (for return) to: Mark, 50 Victoria Avenue, Sleaford, Lincolnshire, NG34 7LN. Ask for cat.

BASOFT PUBLISHING PD – For ST. Original PD plus the best of the rest. SAE to: Basoft, 357 Church Road, Basildon, Essex, SS14 2EU. £1 per disk!

NIST – ST clip art. The biggest and best selection available. £1 per disk. Please send SAE to: NIST, 53 Lenaghan Park, Belfast BT8 4JB.

BBB (BIG BAD BRIAN'S PD) – 3.5-inch only from £1. Send formatted disk and SAE for Catalogue to BBB, 35 Grangeside Avenue, Hull HU6 8LP.

AMIGA PD BREAKTHROUGH – You've tried the rest, now try the best. PD 18p per disk. Swift dispatch of all orders. Contact Darryl, 12 Kent Avenue, Ross-on-Wye HR9 5AQ.

PROPHECY PDL – Public domain at £1 a disk. Send SAE and disk to 390 Couldson Road, Old Couldson, Surrey, CR5 1EF.

Let all the world know

Do you run a user group or bulletin board? Are you organising any event? Do you publish a fanzine? Let the world know about it through *Shopping Express*. Fill in this form and send it to us at: 30 Monmouth Street, Bath BA1 2BW.

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- ● Also, please let us know if any of the information on these pages is out of date.

USER GROUPS A TO D

ABC AMIGA BEGINNERS' CLUB – PD library review. More info in beginners' pack. Send £1.50 to Ian, 110 Whitehill Park, Limavady, Co Londonderry, N Ireland, Tel: 0504 765174.

ACORN ARCHIMEDES.RISC USER 117 Hatfield Road, St Albans, Herts.

ACORN ARCHIMEDES Archive, 18 Mile End Road, Norwich NR4 7Q

AMATEUR RADIO (CBM) – Simon Lewis GM4PLM Commodore Radio Users Group, 69 Irvine Drive, North Clippens, Linwood, Paisley

AMIGA CLUB – Buy, sell and exchange Amiga games. Originals only. Speedball 2, Powermonger, Midwinter, ICFTD, A10 Tank, DPaint 2, Zak McKracken, Off-Road, Turtles. Phone 0789 764039 with Games List.

AMIGA HELP CENTRE – A group to help novices. For CLI help disk and registration send £10 to Simdev, 29 Avon Square, Hemel Hempstead, Herts.

AMIGA HELPLINE SERVICES – Free club for young and old. Send SAE toG Keenan, 21 Skirsa Place, Glasgow, G23 3EE.

AMIGA LOST GAMES CLUB – We are setting up a group to program Amiga games and send out demos to the different publishers so we need designers, coders, artists and musicians for the Amiga. Ring 0782 266964.

THE AMIGA TEAM – A group to help novices. Help given in programming – Assembly, BASIC, C, Logo, Pascal and CLI. For registration and introduction pack send £10 to 11 Beech Grove, Northallerton, North Yorks, DL6 1JY

AMSTRAD BUSINESS USERS – Amstrad Professional User Club, enterprise House PO BOX 10, Roper St, Pallion Ind Estate, Sunderland SR4 6SN. Tel 091-510 8787

AMSTRAD CPC USERS – Tony Baker, United Amstrad User Gp, 26 Uplands Crescent, Fareham, Hants PO16 7JY. Tel 0329 234 291

AMSTRAD CPC HOME USERS – Steve Williams, WACCI, 9 South Close, Twickenham TW2 5JE. Tel 081-898 1090

AMSTRAD LOCAL GROUPS – Amstrad Groups Federation, 4 Sutton Road, Gorton, Manchester

AMSTRAD PC SOFTWARE – Colin Smith, Colbar, 10 Penwood cl, Westbury, Wilts BA13

AMSTRAD PCW – Bob Ellis "Rowan" 100 St Peters Close, Moreton-on-Lugg, Hereford HR4 8DW. 0432 761 860

AMSTRAD 1512/1640/PPC – PC Independent User Group, The Computer Advice Centre 87 High Street, Tonbridge, Kent. Phone 0732 771 512

AMSTRAD BUSINESS USERS – Amstrad Professional User Club, Enterprise House PO BOX 10, Roper Street, Pallion Industrial Estate, Sunderland SR4 6SN. Telephone 091-510 8787

APPLE II USERS – tel 051 9284142.

APPLE MACINTOSH. John Lewis, Macintosh user group, Macintosh House, 11 South Parade, Summertown, Oxford OX2 7JL

APPLE SYSTEMS – Irene Flaxman, Apple 2000, PO Box 3, Liverpool L21 8PY.

ARABIC COMPUTING – Rich Lackey, Arabits, 9 Bellview road, Worthing, West Sussex BN13 1EY

ATARI ALL MACHINES – Colin Hunt, BaPAUG, Wimborne Road, Oakdale, Dorset BH15 3EF

ATARI AND ST PC EMULATOR SUPPORT CLUB – SAE to 153 Parrock Street, Gravesend, Kent, DA121ER

ATARI BUY AND SELL SOCIETY – Atari hardware bought and sold. Anything new, anything old, many a bargain looking to be sold or gisa ring to sell whatu got. 0495 272092.

ATARI PORTFOLIO – D Gilpin, Atari Portfolio User Group, 84 Cambridge Avenue, Gidea Park, Romford RM2 6QU. 0708 730764

ATARI ST DIY HDISK BUILDERS CLUB – information on how to build from scratch an HDisk system for your ST. Help given on what you'll need and how to connect it all up. Call 0495 272092

ATARI ST – Paul Glover, The ST Club, 9 Sutton Place, 49 Stoney Street, Nottingham NG1 1LX. 0602 410241

ATARI ST demos/PD wanted. If you can write demos or want exclusive titles. Write to ST Demos, 8 Bertelin Road, Beaconside, Stafford, ST16.

ATARI ST/STE HELPLINE – We can scan, digitalise and provide loads of clip art. SAE to Nist 53, Lenaghan Park, Belfast, BT8 4JB

ATARI ST USERS ASSOCIATION – provides support for all Atari ST/E users. Help and advice given. Quarterly club magazine and disk. Also exclusive PD library for members. For further information write to ASTUA, 18 Poplar Close, Biggleswade, Beds, SG18 oEW

BBC MICRO – BEEBUG, 117 Hatfield Road, St Albans, Herts AL1 4JS. 0727 40303

BASIC PROGRAMMERS' GUIDE – for all BASIC programmers. Phone Andy on 081-648 4326.

BATPUG – Turbo Pascal user group also open to other PC Pascal programmers. Costs £10 per year. Write to 12 Clegg Avenue, Cleveley's, Blackpool, FYS 9BJ. Send an SAE for sample.

BOMB OUT BROS – A new ST PD coding group wants new members to help expand our range of games, demos and utilities. Write to Adrian Speight, 25 Gilbert Crescent, LLanelli, Dyfed.

BRIDGE CENTRE AMIGA CLUB – A club not just for Amiga users but anyone who wants to become familiar with the Amiga.PD software £1. Membership £3 a year and an additional 20p every Friday. Come to our meetings at the Bridge Centre, Haddington, East Lothian, Scotland every Friday.

C64 PD CLUB – E Masaba, 84 Garmoyle Rd, Liverpool L15 3JH

C USERS GROUP – Francis Glassborow, 64 Southfield Road, Oxfoed OX4 1PA. For everyone interested in the C and C++ programming languages. Publishes a bi-monthly newsletter.

CAMBRIDGE Z88 – Roy Woodward, Z88 Owners' Club, 68 Wellington St, Long Eaton, Nottingham

CD ROM – UK CD-ROM User Group, High Wings, Salem, Treforys, Abertawe 0792 844 370

CHESHIRE 16-BIT USERS CLUB – Amiga, ST, PC, Arc at Radley Common community centre, off Poplars Avenue, Orford, Warrington, Friday nights. All welcome. £1 admission.

CHESS COMPUTER PROGRAMMERS and interested players send an SAE to Steve Roe, 25 Nene Walk, Worksop, Notts or ring BBS 0909 479080.

SPOTLIGHT ON YOUR GROUPS AND FANZINES

We receive a lot of information about PD libraries for this spot, but very little about user groups and fanzines.

So here is a request for all you editors and group organisers to get your pens out or printers whirring and get writing in.

Of course, what we're really after are groups and fanzines with a bit of a difference. So, if you're running a Dragon user group or put together a newsletter for all Lynx loving footballers with pulled ligaments, tell us all about it.

So don't miss this chance to blow your own trumpet. Send all your fanzines. disk magazines and user group information, along with any relevant piccies, to:

SPOTLIGHT, *New Computer Express*, 30 Monmouth Street, Bath, Avon BA1 2BW.

CHOICE – on-line help. Tel 0308 23224

CHESHIRE NIMBUS USER GROUP – Geoff Nelder, Queens Park High School, Handbridge, Chester

CHURCH ADMINISTRATION – Rev Stoker Wilson, Church Computer User Group, St John's Vicarage, Greenside, Ryton, Tyne & Wear NE40 4AA. 091-413 8281

CID (Computers and Integration for the Disabled) is a registered charity. Write to Gordon, Chelsea Road, Inverurie, Aberdeenshire, ABS 9QZ or tel 0467 24202

CLERGY/MEDICAL EDUCATION – Mr T Jones, FREE-ED Shareware/PD 85 Stoke road, Taunton, Somerset TA1 3EL. Tel 0823 321 481

CLEVELAND AMIGA CLUB – Thought our Amiga scheme should get organised. Tel 06542 252133 and ask for Barry or write to 30 Aske Road Middlesborough, Cleveland, TS1 4DA. No lamerss. Hope to start PD club and fanzine.

CLUB A3000 – The largest Archimedes User Group in London! Visit our second open day on Sunday 23 June. For more details please contact us on 081-445 2126.

CLUB AMIGA answers your questions on software and hardware on its 24 hour helpline. Join now. Send £5 to Club Amiga, 5 Bowes Lea, Shiney Row, Tyne and Wear DH4 4PP.

CLUB M – Monochrome ST user group needs members. Dedication, enthusiasm and a sense of humour are the only membership fees. Small ever expanding PD Library. Write to CLUB M, 59 Maple House, Idonia Street, London SE8 4LT.

COBOL LANGUAGE – Allen Reavie 22 Mourneview St, Portadown, Northern Ireland. BT62 3AW

COLECO ADAM – Keith Mamer, UKAS 33 Homer Road, Croydon CXR0 7SB

COMMODORE ALL MICROS – Jack Cohen, ICPUG, PO Box 1309, London, N3 2UT. Tel 081-346 0050 after 6pm

COMMODORE 64 CLUB has been on the go for the last five months and new members are welcome. For more details send an SAE to The C64 Club, 20 Finlow Place, Dundee, Scotland

COMMODORE AMIGA – UK Amiga Users Group. Contact 144 Charles Street, Leicester LE2 0OD. Telephone 0533 510066 voice; 0533 517615

COMMUNITY COMPUTING – Community Computing Network 2nd Floor, 35 Pink Lane, Newcastle, NE1 5DW. Tel 091-261 0317

COMPUCORP. Compucorp University users group c/o Compucorp, Cunningham House, Westfield Lan, Kenton, Middx

COMPUNET – write to Independent Compunet Club, 148 Furzehill road, Boreham Wood Herts. WD6 2DX

CONFERENCING – Compulink, suite 2, The Scantuary, 23 Oakhill Grove, Surbiton, Surrey KT6 6DU Voice 081-390 8446. CIX BBS 081-399 5252

CPM & MSDOS Users Group – 42 Birkbeck Road, Wimbeldon, London SW19 9NZ. Tel 081-543 0824.

CRYPTOGRAPHY & CODES – Mike Barlow, American Cryptogram Association 5052 Chestnut Avenue, Pierrefonds, Quebec HBZ 2A8 Canada

DATAEASE USER GROUP – High-Tech House, 10 Blackfriars Street, Norwich, NR3 1SJF

DISABLED – Jeff Hughes, Special Needs User Group, 39 Eccleston Gardens, St Helens WA10 3BJ 0744 24608

DESKPRESS USER GROUP – Is there one? Fancy starting one? If your answer is yes to either of the above, please write to me, Raymond Day, at 3 Hall Terrace, Willington, Crook, Co Durham, DL15 0QN.

DRAGON – Paul Grade, National Dragon Users Group, 6 Navarino Road, Worthing, Sussex or tel 0903 207585.

CONTINUED NEXT WEEK

SHOPPING EXPRESS BUYERS' GUIDE

While *Shopping Express* is undoubtedly the perfect way to track down the best bargains in the computer world, many people are still wary of buying products via mail order or through personal ads. This is probably because usually you are not able to have a look at what you are purchasing before you hand over your money.

We do everything in our power at this end to make sure that all the advertisements we run are above board. But here are a few tips designed to help take the risk out of buying via mail order or over the telephone.

- **Be precise in describing what you want to buy. Leave no room for error. Feel free to go overboard in double checking details – make, model, specifications, colour, size, the page number and name of the magazine in which you saw the advertisement etc.**
- **Confirm the exact price of the article you are buying. If you are phoning a company check if there are any hidden extras, such as postage and packaging.**
- **Check how the item will be delivered to you and how long it should take. This is especially important with reader ads where delivery details are rarely mentioned.**
- **If you are writing off for the product keep copies of all letters. If you are phoning, note down details of when you phoned and who you spoke to.**
- **If possible enquire about guarantees and servicing. Check the supplier's policy on returns and refunds. With reader ads, it is best to make the effort to see the item personally before you hand over money.**
- **When possible pay by credit card for items over £100, as this provides extra cover under the credit card companies' own insurance schemes. Otherwise use a crossed cheque or postal order. Avoid sending cash at all costs.**

DAFTEST AD OF THE WEEK

From time to time here at *Shopping Express* (or SEX as we like to call it) we receive some pretty astounding ads. It would be a pity if you missed some of these gems hidden away in the reader ads columns, so here is the second in an irregular series of genuinely cookie ads:

WANTED Your computer with accessories. Swap for a car, Austin Allegro, X-reg, tax and test. Good condition. Any offer. Ring Paul on 0652 648504. This is a serious ad.

Well, Paul, if you do get any offers, please get in contact and tell us the outcome.

THE PD COLUMN

PD connoisseur Frank O'Connor samples the latest and tastiest software you can get your teeth into so get reading while it's still hot...

Amiga music nutters may be pleased to hear that Amiganuts will very shortly have a working version of ***Octamed V2.*** This rather excellent utility was reviewed in these hallowed pages a couple of months ago in its first incarnation.

Octamed for those of you who don't know, is a soundtracker with knobs on. Soundtrackers allow you to play back previously recorded music tracks and fiddle about with them. It's kind of like a software tape player, but with a great deal more interaction.

Octamed is probably the best of its kind on the Amiga. The fact is, that it's very simple to use and even simpler to understand. Soundtrackers generally have options screens that would make Nasa research scientist sweat, but ***Octamed*** is simple and straightforward.

Crisp, clean icon displays allow you to use the various functions with ease and it's difficult to go wrong. The program includes facilities which let you mess with the structure of any music files you load or create. Effectively, you can do a kind of remix.

The pre-production version we looked at isn't quite finished. When it is, it will feature full eight-channel capabilities. Not bad when you consider that an Amiga only has four channel sound. V2 will, when finished, include a stave/notation facility. This has been included to cater for the growing demand from real musicians who'd like to see what they are doing in a standard format.

This feature is backed up by the recent addition of printout capabilities. It seems odd now that you couldn't have hard copies of your works of musical genius. Good news for owners of version one, is that you can upgrade to the new version for half the advertised price.

The copy we received was a little rough around the edges, but showed some of the potential of the upgrade. It really is a quantum leap (both in ability and usability) over its predecessor.

BLOCK SIMPLE

Also from Amiganuts this week is a rather brilliant font designer called ***Block Designer***. It can be used to create fonts, or small graphic characters. These could feasibly be used in simple games as

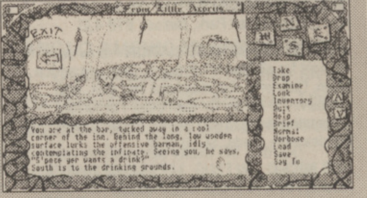
IF DEBAUCHERY TURNS YOU ON

For a bit of a laugh, get hold of the game *From Little Acorns* from Budgie. This is a bit of a fun-poking exercise at the Hobbit's expense. It features similar characters in similar situations, all with one thing in common, they are all very drunk indeed.

It's a role playing game where you choose your options from a list at the side of the screen. It plays much like a graphic adventure, only with more beer involved. Initially there seems to be no plot, only a large amount of alcohol being consumed, but it soon reveals itself to be a fairly involved adventure.

The humour throughout is very funny and the mono graphics actually quite well drawn. It's very easy to get quite far into the game and probably very easy to complete. Doing so will cause many a chuckle, though. It should also be mentioned that a rather nice tune plays throughout and completely spoils the drunken atmosphere of the game.

If debauchery and alcoholic stupor are what turn you on, then this is the game for you. It is licenseware, though, and will be a bit more expensive than usual PD stuff.



You are at the bar, tucked away in a cool corner of the inn. Behind the long, low wooden surface lurks the offensive barman, idly contemplating the infinite. Seeing you, he says, "S'pose yer wants a drink?"
South is to the drinking grounds.

• Drunken debauchery is the major theme of your role playing in **From Little Acorns grow.**

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" ELECTRICLOWN" Disks are nicely put together, with a lot of uncommon programs and utilities.......Phil South, AMIGA SHOPPER August '91

We have many more Disks available in this range, for full details see our catalogue disk.

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ALL CHEQUES/PO's payable to ELECTRICLOWN

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11-15......£1.10
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OUR FULLY MENU DRIVEN CATALOGUE DISK IS ONLY 70p OR FREE WITH YOUR FIRST ORDER. COMES COMPLETE WITH FULL DISK DESCRIPTIONS.

Can you afford *not* to join?

39p THE Amiga PUBLIC DOMAIN CLUB

Yes that's right, you can now get Amiga PD for an amazing 39p per disk (Free if you supply the disk), once you have joined our friendly, fast growing and extremely popular Amiga PD Club. It must surely be the Public Domain buyers dream come true!

Lifetime membership to the club costs only £19.95. Much of this, however, will go straight back into the club to provide you with an even better service. Members will be able to choose as many PD titles as they like from our detailed catalogue disks, listing many of the Classic and Latest titles. We will bring you the very best in Demos, Utilities, Music, Art, Business, Animation, Games, Slides and much more. Just send us the blank disks & return postage and we will despatch your order to you the same day. It just couldn't be easier. As an added bonus, members not wishing to supply their own disks - don't have to. We will send your order on our own high quality disks for just 39p per title. We can't say fairer than that!

Members will also enjoy many other benefits including:
- ⋆ Many new titles to choose from every month!
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- ⋆ All catalogue disks are constantly updated and are available FREE!
- ⋆ Superb disk magazine, FREE every month. (News, Reviews, Competitions, Letters, Classifieds and much more!)
- ⋆ A FREE games compilation to welcome all new members! A FREE mystery gift worth £14.95!
- ⋆ No minimum or maximum order!
- ⋆ Members can even request titles that we don't have at no extra cost!

Membership is usually priced at £29.95 a year, so apply now and take full advantage of this extra special offer. Remember, you can have LIFETIME membership for an incredible £19.95! Even your first order could save you £££'s!

To become a member, simply fill out the form below and send with a Cheque/Postal Order to:

P.A.S. Enterprises, Amiga PD Club, Dept NCE ,
3 St. Johns Walk, St. Ives, Cornwall TR26 2JJ, England.

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Join now. We promise you will not be disappointed

Please enrol me as a member of the AMIGA PD CLUB and rush me my members pack and membership number. I enclose a Cheque/Postal Order for £19.95 payable to P.A.S. Enterprises.
Name .... Address ....
....
Postcode .... Telephone ....

ADDRESSES, COS YOU KNOW YOU WANT 'EM

Amiganuts, as usual live at;
Amiganuts, 160 Dale Valley Road,
Southampton SO1 6QX.

If you want to get hold some gnarly ST licenseware contact; Budgie UK, 5 Minster Close, Rayleigh, Essex SS6 8SF.

Caledonia PDL will sort out your ST needs if you contact;
Caledonia PDL, 250 Oldtown Road,
Hilton, Inverness IV2 4PT.

user defined sprites. What use you put the characters to is up to you.

The program looks much like an art utility, with a grid on one side and a menu section running beside it. The options are simple and all icon controlled. You can choose from 16 colours from a predefined palette. If you are unhappy with the palette, it's simplicity itself to define your own colours.

Once you have selected a colour, you can then begin to design the character. This is done simply by clicking the mouse pointer on a square of the grid. This square then lights up in the selected colour. You can now draw whichever letter or number you please.

The font included in the package is a cartoon type and can be edited at will. If you are unhappy with the positioning of the character, you can shift it around within the grid using the move option. This is a really useful facility, as font design often reveals problems when you position characters together. This option makes alignment and positioning easy.

The fonts you design can then be incorporated into most art packages and used at will. Beautifully programmed and very flexible, this has to be one of the best of its kind on the PD scene.

PROGRAMMING MADE SIMPLE

Anyone for Pascal? Pascal is a rather interesting programming language which appeared in the early eighties. It is similar in some respects to both BASIC and Fortran, but has a few useful features not found on either.

Pascal is a very structured language. It relies on a complex principle, but puts that principle to use in a fairly simple manner.

You set up functions early in the program which can be called up later on. In simple terms this means that the main instructional code is only a few lines long. Mind you, the main set-up and body of a program can be huge.

The version of Pascal supplied by Amiganuts is faultless. Its applications as far as a computer like the Amiga is concerned, are limited. However, the language is a useful learning tool and is invaluable to any Amiga owner who takes programming seriously.

VIRUS KILLER AT LARGE

ST owners plagued by viruses can rest easy. Caledonia PDL have got hold of the superlative German virus killer, Sagrotan. It recognises all non-standard bootblocks and tells you whether or not they contain viruses.

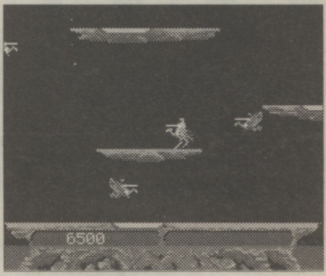
The program is very comprehensive. It recognises the very insidious and destructive link viruses and has the facility to remove them. Perhaps the best feature of this particular virus killer is its hard drive features.

It can check hard drives very quickly and has a limited ability to repair and recover any lost data. Viruses are a real problem these days, even major software houses are affected.

One way to avoid virus infection is to switch off your computer after every task, but this can be a real pain and won't help hard drive owners one bit. If they have viruses they could lose everything on a drive. When you consider this could be 40Mb of information and programs, you can see the grief one itsy, bitsy virus can do.

The best solution to this is to protect your micro with the best virus killer you can find. You could do worse than to get hold of a copy of Sagrotan, especially if you're a hard drive owner.

JUST JOUSTING



- *Joust – a superb game, but not up for grabs on Public Domain.*

Observant readers may have noticed a small gaffe in a recent review of the old Atari/Williams game Joust. The game itself is superb, unfortunately it turned out that it wasn't actually Public Domain.

I was completely fooled, as were quite a few PD companies who were supplying the game. It was assumed that the program had become PD.

A justifiably irate gentleman from Atari called to point out this little detail. Most embarrassed by this fiasco, I can only warn companies and customers alike to avoid the product. Atari was angry, Williams was furious and all because of one teeny little mistake. Still, we all learn from them... ■

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1036: Amibase Professional II (v.1.2). The new additions to this database make it a must have. It includes a nice picture addition facility. (1Mb)	£3.50
876: Quizmaster, think you know it all? Well now you can prove it. With save and re-load facility. For 1 to 4 players. Great fun, excellent value	£3.00
877: 1 Across 2 Down. A fully fledged crossword program. (Data disk No: 1 is supplied free!). For only £5.00. Data disks 2, 3 and 4 are now ready at £2.00 each.	
1038: Super Amidash. Do you remember that good old Commodore 64 game Boulderdash? Well here is your chance to have that fun again 1Mb	£3.00
1068: MOD Processor v1.92. make picture and/or music progs, adjust pic height/width. This version will load the new 8 channel octamed music and is excellent!	£3.50
1075: Intuimenu. The easiest way to run all your programs. By Nicholas Lewis	£3.00
1077: Clear. A very good, (but mind-bogglingly hard), game from PH Software	£3.00
1083: Copper Writer/Screen Designer. By Frank Tout. (For programmers only)	£3.00
1088: Weird in Edgways. This is a good puzzle game. By Chris Banks 1Mb	£3.00
1100: School Timetable Creator. (Print your timetable). By Keith Grant. 1Mb	£3.00
1102: The Sprite Designer. A good way to draw/save sprites. By Frank Tout	£3.00
1106: The Block Designer. Use with disk 1083 and design 16 x 16 pixel squares	£3.00

Listed below are the latest additions ot our public domain & shareware section

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1103: A very special 4 disk animation from the famous Tobias Richter. 5Mb	£6.00
1104: Scum Haters. Get those baddies! A good fun game by Brazzle Atkins	£2.00
1105: Reincarnation of Sgt. Pepper. A two disk music/pic extravaganza 1Mb	£3.00
1111: PCQ Pascal Front End, (Assembler). This is a must for PCQ fans	£2.00
1124: Got a PC or Atari as well? Then the PC/Atari emulator is for you	£2.00

Many new programs have arrived, but there is no space to list them all!

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LOOK

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Please note that we are closed from 18th to 26th August and no orders will be dealt with during these dates.

Many customers keep asking us why we will not accept credit cards, the simple answer is that we do not like encouraging young people to get into debt!!

The EVENT HORIZON

Who's doing what, with what, with whom, how, why and where...

THE PLACES TO BE . . .

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Now – Tue 31 Dec
At the Science Museum, London. Info: 071-938 8080.

GeoCon '91 Sun 11 – Tue 13 August
Info: 010 32 03 234 3180.

Computer Animation Competition and Exhibition Wed 21 – Wed 28 August
At the Amiga Centre Scotland. Entries in by 31 July. Info: 031 557 4242.

Leeds Computer Extravaganza
Fri 13 – Sun 15 Sept
At the New Exhibition Centre, Leeds University. Info: 0532 677 657.

Business Computing '91
Tue 17 – Fri 20 Sept
At the Earls Court Exhibition Centre, London. Info: 071-486 1951.

The Works of Charles Babbage
Thu 19 Sept
Lecture at the King Edward VI College, Totnes at 14.15. Info: 0803 863821.

Effective Management of Information Technology Security Conference
Mon 7 – Tue 8 Oct
With hackers constantly making the computer news, an awareness of the importance of computer security is growing. Organiser, the Institute for International Research, describes this as no longer a technical problem but one that has to be faced by management.

To this end, the conference, to be held in London, is aimed at managers in central and local government, industry and commerce. Topics under sdiscussion will include hackers, crackers and phreakers(!). Info: 071-5871117.

Computers Count Tue 8 – Thu 10 Oct
An exhibition at Totnes Civic Hall. Info: 0803 863821.

Business Communications Awards
Thu 10 October
At the Savoy Hotel. Info: 0800 800 847.

Charles Babbage's Impact on Modern Computing Wed 23 Oct
At the Science Museum, London at 17.30. Info: 071-9388196.

Image Processing '91
Tue 29 – Thu 31 Oct
At Birmingham NEC. Info: 081-868 9933.

System Builder Wed 30 – Thu 31 Oct
At Sandown Exhibition Centre, Esher, Surrey. Info: 0822 614671.

Computer Graphics '91
Tue 5 – Thu 7 Nov
At the Alexandra Place, London. Info: 081-868 9933.

Desktop Cad '91 Tue 5 – Thu 7 Nov
As above.

Open Systems 91 Wed 6 – Fri 8 Nov
At the Olympia, London. Info: 0784 472200.

All Micro Show and Radio Rally
Sat 9 Nov
At Bingley Hall, Stafford. Info: 0473 272002.

Computers in the City
Tue 12 – Thu 14 Nov
At the Barbican Centre, London. Info: 081-868 4466. ■

The Insider ...

The views expressed by the Insider do not necessarily reflect those of the editor or publishers of *New Computer Express*.

Come in, come in! Welcome to the Insider, the disher of dirt, the mauler of myths and the spoilt brat in the corner of the computer industry who wants everything her (or his) way.

Do you have any interesting pieces of gossip about computer people, the higher up the better (you should of course be able to substantial any gen)? Well other people want to know about it. So send any 'Insider Info' to:

The Event Horizon, *New Computer Express*, 30 Monmouth St, Bath BA1 2BW.

Anonymity is assured, as is a fiver for anything used.

QUESTIONS, QUESTIONS

Wonderful and marvellous, those little things which the big fellows get up to. For example, which software house executive's past history in the business world features a more than passing aquaintance with the bankruptcy courts? And more to the point, why hasn't this person declared it?

European software outfits don't really feature in the news that much, especially when young marketing turks get involved with wives of non-European software houses.

Ah, Je t'aime!

OFF THE RECORD

Which disgruntled PR man was overheard to say of Atari's Lynx gifts to Gazza and his team-mates:

"We're not getting into that sort of marketing exercise. We wish to retain some sort of dignity and credibility for our high-tech clients."

If you don't know we can't tell you because like all of the best quotes, it was definitely off the record...

US CHAIN GANG

Chain litigation is the latest craze in the US with defendants delaying actions against them while they sue the person that they allege is responsible for their mistake. This craze, rumoured to have started in Silicon Valley works something like this:

Disgruntled person sues software company for faulty product. Software company sues third party contract developer for faulty programmer. Developer sues utility software company for undocumented features. And so on, and so on until someone decides that their reputation is at stake and sues the original instigator.

Result: a daisy chain of unhappy computer people keeping the throughput of US law schools well oiled.

Thankfully there's no way it could happen here ... could it?

Golden Moments

A look back into the history of computing with *Express*. If it happened we reported it first.

ONE YEAR AGO

● Atari's TT workstation was launched. Although using the same processor as Commodore's Amiga 3000, the TT runs at a clock speed of 32MHz compared to the A3000's 25MHz. It also has better graphics capabilities and retails at a significantly lower price.

Atari hoped that the machine would appeal to the "guy who's buying real power" and offer serious competition for workstation manufacturers Sun and Apollo.

● Three hackers in America were caught and sentenced to between five and ten years imprisonment. The young men were members of the 'Legion of Doom' hacking group, which was renowned for computer vandalism and cost Bell South in the region of $1.5 million. The team members probably would not have been found out if another hacker had not been caught and forced to testify against them.

● Top secret processors, designed to withstand the burst of radiation from an atomic bomb, somehow found their way into a number of Amstrad 8-bit micros. With such sturdy components, the notion that Amstrad's machines are shoddy is clearly a myth.

TWO YEARS AGO

● Software house Ocean sent two games designers to New York to see *Batman*. The visit was based on the innovative theory that a better *Batman* game might be produced if those involved saw the movie beforehand.

● A virus with a political conscience was found lurking in PCs. Rather than send messages to the screen, the virus contented itself with printing adverse comments about world leaders in the middle of printed documents.

● Much to FAST's frustration, a clause in the Copyright and Data Protection Act designed to ban copying devices, was found to have a loop-hole. The copying devices are legal – it is up to the user to decide if they use them for illegal activities or not, in much the same way as a tape to tape deck.

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Telephone: 061 446 2251.

OH MISTER SCANMAN

Logitech's Scanman 32 is a new, low-cost hand scanner for the PC. Tim Howell sees if it lives up to its image

PRODUCT: Scanman Model 32 hand scanner
MACHINE: PC
SUPPLIER: Logitech UK
CONTACT: 0753 537222

Unless you're a dab hand with a paint package, the only way to get pictures into your DTP documents is by using a scanner. A scanner projects a line of light on an image, and as the light moves down, converts the different light intensities into digital information the computer can understand, turning your object into a piece of computer art.

Logitech's Scanman Model 32 is a PC hand scanner and compared to larger flat-bed scanners it can scan a much smaller area of an image at once. However, software can stitch smaller images together.

Scanners can capture two types of images – half tones and line art. Line art is simply black and white and gives the highest definition. For photographs, half tones are needed. These simulate shades of grey using patterns of black and white dots.

Scanman comes as a package that includes the hand scanner, an interface card for the PC, testing and installation programs and *Graytouch* image editing software. There are two manuals, one for the scanner; the other for the *Graytouch* software. Both are informative, well produced and set out.

GETTING READY TO GO

Setting up the scanner was no problem. The PC was turned off, its case removed and the scanner interface board was inserted in one of the machines' 16-bit slots (it can be used in 8-bit slots as well). Then, once the case was replaced, the connections checked and the scanner hooked up to its port, it was ready to go.

The installation software ensures the scanner doesn't conflict with other hardware. If it does conflict, the manual explains how to fix it. I had no such problems, but it's good to know the information is there.

Once the scanner is recognised by the computer, the software inserts its driver commands in CONFIG.SYS, so that the scanner is recognised all the time, or at least whenever it is going to be used. Once the scanner is recognised, the installation software makes a test scan to see if everything is working.

When the scanner is working a small LED on the scanner lights up. If the scanner is moved too quickly the LED starts flashing, which means the computer can't handle the speed of the incoming data. This is more likely to happen at higher dpi (dots per inch) settings as there are more pixels to manage. The PC we used for testing the scanner was a 386, but a slower machine would be put under more pressure which could slow the scanning process down.

IMAGE MAKING

With any scanner, its usefulness is determined by the software used with it. Scanman comes with two pieces of software to scan images, not including the installation and testing software. A DOS command lets you scan an image straight to a picture file. You can't see what you've scanned, though, until you load that file into a paint or display package.

The other piece of software is a complete scanning, image manipulation and retouching package called *Graytouch*. This comprehensive yet easy-to-use program allows scanned images to be sharpened or smoothed to improve clarity, or joined together if a larger image is required. If you want to add your own drawings to them, though, a drawing or paint program such as *DeluxePaint* is needed.

Images which consist of more pixels take up more memory. The hardware restricts the amount of memory available for scanning, but *Graytouch* is intelligent in this respect as it saves an image to disk once the memory is filled, freeing the memory for scanning.

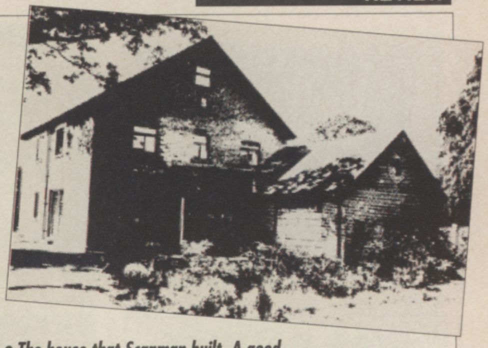
The quality of the images is determined by the resolution it scans at. The higher the resolution, the better defined the images are. Scanman can scan at 100, 200, 300 and 400 dpi. Dots per inch is a measurement of pixel 'dots' in one square inch of an image.

An image scanned at 400 dpi should look better than an image, say, scanned at 100 dpi. But why bother having the lower resolution? The answer is that pictures such as line drawings and black and white pictures will come out better if scanned at a lower resolution.

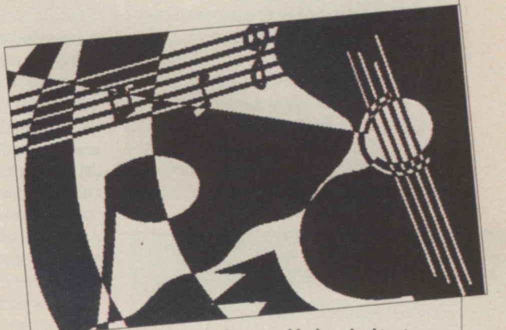
The scanner hardware has different settings for dithering and line art. The dithering controls determine how fine or coarse the scans of photographic images are. This is used in conjunction with *Graytouch* to produce grey-scale images. Grey-scale imaging turns varying light intensities or colour densities on a photo, for example, into grey shades. This brings out more of the subtleties in the original by mathematically determining which of 32 grey shades is appropriate for each cell. Line art enables the scanning of black and white images such as line drawings or clip art. Dark colours are interpreted as black, light images as white.

SYSTEM SPECIFICATIONS

Operating system: MS-DOS or PC-DOS 3.0 or higher
Computer: XT and upwards
Memory: 640 K (1Mb recommended)
Disk storage: Hard disk drive (2Mb free space) and at least one 3.5 inch or 5.25 inch floppy drive
Display adapter: Hercules and VGA, EGA, CGA (mono)
Dimensions: 136 x 138 x 36 mm
Weight: 300 g
Scanning width: 105 mm +/- 3 per cent
Light source: Yellow-green LED
Resolution settings: 100, 200, 300 and 400 dpi



• The house that Scanman built. A good quality, grey scale scan of a black and white photograph.



• Scanning black and white images is not always easy, but results are usually good. Here a image makes the transition from paper to computer and back to paper.

RESOLUTION RESULTS

The Scanman coped with different resolutions quite well. This is due to the software as much as, if not more than, the hardware itself. Black and white photographs came out really well - here it was a case of the higher the scanning resolution, the better the picture.

We scanned a number of images from colour and black and white photographs, newspaper articles, press releases and black and white diagrams. Results in general were very good. When newspapers and black and white diagrams were scanned, extra care had to be taken, scanning in line art mode at a high resolution. With the high levels of definition, the scanner has to be kept very steady since it affects the outcome of the picture. Even on a perfectly flat surface this wasn't easy, mainly because the scanner doesn't weigh a lot, but using a ruler to guide the scanner helped, although it didn't stop the problem altogether.

ALL IN ALL

At £152 the Scanman is very reasonably priced and as far as hand scanners go, it couldn't really be improved on. It is a well-constructed piece of hardware that is easy to install and comes with a good quality imaging software and two manuals that explain everything clearly. Scanman is a good all-round package. ■

SCANNER SCORES

FOR
▲ Easy to install and use
▲ Good software included
AGAINST
▼ Its light weight can prove tricky
▼ Can only scan small images
COST – £152

Games Week

Stuart 'Scorer' Campbell sticks up his points card and gives those games a real rating – from the atrocious unplayable to the amazingly adventurous

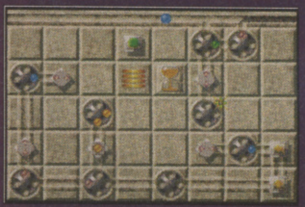
STAR RATINGS

Starting this week, I'll be giving ratings for all the games I review according to the following system:

★★★★★ = Beatrice Dalle
★★★★ = Winona Ryder
★★★ = Barbara Flynn
★★ = Su Pollard
★ = Cher

LOGICAL

Rainbow Arts • £ xxx
(Continued from last week)



For all you marble-puzzling fans out there, here's the second instalment of level codes for Rainbow Arts' wheels'n'tubes brainteaser.

31 - BLUE VELVET
32 - PARADISE I
33 - CLASSIC ART
34 - VENI VIDI VICI
35 - WE LIKE IT
36 - FOREVER HERE
37 - WONDERLAND
38 - THE SNARE
39 - CURE IT
40 - SUN IS SHINING
41 - A RAINBOW
42 - ARROW ROAD
43 - TURNING WHEELS
44 - ACCELERATION
45 - THE PRESIDENT
46 - HE IS MISSING
47 - PICKNICK TIME
48 - WHO IS CALLING
49 - ANCIENT ART
50 - SHE IS GONE
51 - LOGISTIC
52 - TURNING COLORS
53 - PARAMOUNT
54 - THE LADDER
55 - BACK IN RED
56 - TREASURE ROOM
57 - DONT WANT THAT
58 - THE FREE FALL
59 - CORRADO BEACH
60 - MORE POPCORN

Tune in next week for the last 40 passwords, including the one which lets you access the game's built-in construction kit for infinite mind-stretching.

HAYDN POWERS

The power of the press! As an undoubted result of our own Haydn Fitz-Williams' recent campaign on the *Express* Mail pages, Channel 4 has announced the long-awaited commissioning of a TV series for computer and video gamesplayers. The 10 weekly programmes in the series will last for half an hour each and the first one is scheduled to be screened in January next year. The show will be called 'Gamesmaster' and will feature "competitions between top players, new games reviews, international games charts, plus tips on how to crack the difficult bits in your favourite games".

The series will be produced by an independent production company called Hewland International, and director Jane Hewland has spent over a year developing, researching and selling the idea. Announcing the project, she said: "It has been frustrating at times. As the mother of an 11-year-old son, I could see quite clearly the enormous growth in popularity of video games, and therefore the potential for a TV series. At the time we were developing our series, I was terrified someone else would spot what we had spotted and move in ahead of us. But we were lucky and Channel 4 has been fantastically supportive. They always said they would commission the series as soon as they could find the funds and they have kept their word."

A video gaming show has been long overdue and it finally looks like the huge numbers of gamesplayers in this country are going to get their share of airtime. One thing seems sure, it's going to be smashing TV...

SMASHING TV...

...which, by a staggeringly fortunate coincidence, leads me tidily into the next piece. When Ocean acquired the licence to convert the stunning Williams coin-op Smash TV on to the home micros, there were loud murmurs of doubt about the possibility of doing a good job on it (especially on the 8-bits). The doubts look like being dispelled though, if the C64 version is anything to go by. The quality of a fairly early preview copy was quite amazing even though it contained just a few levels and one end-of-level boss. All the baddies are present and correct and the action doesn't slow down when lots appear at once, which bodes well for the truly genocidal later levels. All the patterns of movement have been correctly replicated and though the firing system could benefit from a bit of tweaking (the programmers would do well to look at the direction-locking system used by Jeff Minter on his 16-bit shareware game ***Llamatron***, another derivative of Smash TV's arcade predecessor ***Robotron***), the conversion looks like being a major triumph.

• Total Carnage! Love it!

HERE IT COMES AGAIN

This week in Re-releaseville, the second wind treatment given to, amongst others, several one-on-one fighting games, so what better time to see just what's available at budget price in the world of...
BEAT-'EM-UPS

• Sweaty hands slip off joysticks in IK+

TOP 10 EIGHT-BIT GAMES

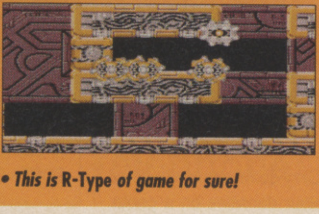
THIS WEEK	LAST WEEK	TITLE	PUBLISHER	MACHINE
1	5	*Bubble Bobble*	Hit Squad	SP CO AM OT
2	1	*Magic Land Dizzy*	Codemasters	SP CO AM
3	7	*Dizzy Panic*	Codemasters	SP AM
4	2	*Dragon Ninja*	Hit Squad	SP CO AM
5	6	*Double Dragon*	Mastertronic	SP CO AM OT
6	4	*Quattro Cartoon*	Codemasters	SP CO AM
7	3	*Multimixx 1 Golf*	Kixx	SP CO AM
8	18	*Spike in Transilvania*	Codemasters	SP CO
9	NE	*Quattro Coin-ops*	Codemasters	SP CO AM
10	RE	*Ghostbusters 2*	Hit Squad	SP CO AM OT

SP = Spectrum CO = Commodore 64 AM = Amstrad.
Chart compiled by Gallup. © European Leisure Software Publishers Assoc.

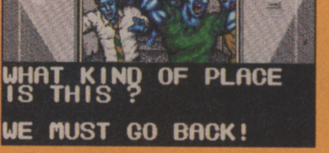
BEG, BORROW AND BURN

This week you'd have to be off your head not to:

BEG
A copy of *R-Type II* (Activision), the shoot-'em-up that takes arcade emulation further than ever before. Of course, after all the to-ing and fro-ing with Activision recently, it'll probably have been delayed for another two months, but if you see it, get it.



• This is R-Type of game for sure!



WHAT KIND OF PLACE IS THIS ?
WE MUST GO BACK!

• The Beast Busters wander into the Express office by mistake

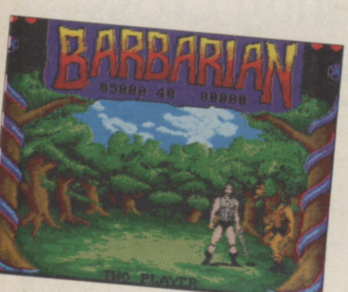
BORROW
A copy of *Beast Busters* (Activision again). This Operation Wolf-type scrolling blaster looks pretty close to the original, but many people will find it far too easy. Slowing down when the action hots up is a bit crap, too, but there's still loads of zombie-splattering fun to be had.

BURN
Any copies you might happen to stumble across of *Champion Of The Raj* (Imageworks). This latest game in the *Defender Of The Crown* league takes the minimum-gameplay and maximum disk-accessing formula to new heights (or should that be depths?), to produce one of the most breathtaking wastes of £26 yet perpetrated on the games-buying public.

• Also-Ran of the Raj more like.

THIS WEEK

IK+ (The Hit Squad, £7.99 for 16-bits and £2.99 for 8-bits)
System 3's oriental rumble was regarded by many people as the ultimate game in its genre when it first appeared around four years ago. All versions of this three-player epic of single-minded mayhem are excellent, but the Amiga one really takes the biscuit, with wonderful music, bone-crunching sound, variable speed, instinctive controls and more than a touch of humour all thrown in to make this the perfect beat-'em-up for people who hate beat-'em-ups. Our sister mag *Amiga Power* recently named this as No. 60 in the All-Time Top 100 Amiga Games, and it's a game every single games lover worthy of the name should own. ★ ★ ★ ★ ★



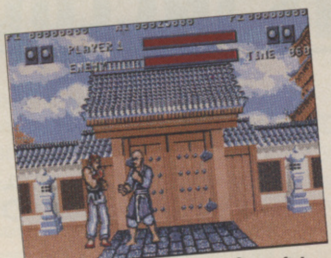
• 'I was just standing there and his head exploded!'

Barbarian (Kixx, £7.99 for 16-bits, £3.99 for 8-bits)
Initially released on the back of (or perhaps that should be on the front of) a rather dubious Maria Whittaker promotion, this neanderthal slasher was nevertheless a game good enough to sell in its own right.

The 16-bit versions looked distinctly like C64 ports, but that was okay, as the C64 version was, like all the others, a highly entertaining hacking (that's 'hacking' in the original sense) game with some rather bloodthirsty effects and, again, a few laughs, in the shape of the dwarf who came on and dragged the defeated warriors away, booting their recently-separated heads in front of them. Having an ultimate objective makes the game a bit limited in terms of lasting appeal, but it'll take you a while to get that far. ★ ★ ★

Street Fighter (Kixx, £7.99)
Just to dispel any dangerous myth of quality control on their budget label, Kixx has also unleashed this software atrocity on the public a second time.

One of the most astoundingly inept examples of 16-bit programming ever seen, this truly unplayable game also features pitiful animation, minimal player interaction (your character seems to do pretty much whatever he feels like most of the time), scrolling which stretches the bounds of credulity to its very limits and graphics which might just tempt the unwary into believing that this was actually a halfway decent conversion of the reasonably entertaining coin-op. Don't be fooled. ★ ■



• Street fighter - twice as boring as this screenshot looks

TOP 10
SIXTEEN-BIT GAMES

THIS WEEK	LAST WEEK	TITLE	PUBLISHER	MACHINE
1	4	***Sonic the Hedgehog***	Sega	OT
2	3	***Lombard RAC Rally***	Hit Squad	ST AG PC
3	1	***F15 Strike Eagle 2***	Microprose	ST AG PC
4	8	***Xenon 2***	Mirror Image	ST AG PC
5	2	***Full Contact***	Team 17	AG
6	9	***North and South***	Digital Integration	ST AG
7	RE	***Mickey Mouse***	Sega	ST AG OT
8	14	***Eye of the Beholder***	US Gold	AG PC
9	RE	***Waterloo***	Mirror Image	ST AG PC
10	7	***Lemmings***	Psygnosis	ST AG PC

ST = Atari ST AG = Commodore Amiga PC = IBM PC or compatible OT = Other
Chart compiled by Gallup. © European Leisure Software Publishers Assoc.

HATSTAND CORNER

Top comedian and entertainer Bruce Forsyth is one of the nation's most celebrated wig-wearers. What isn't quite so well-known is that he actually chose the style and colouring of his hairpiece with a computer program similar to an identikit game once given away with *ST Format*. The game allowed the player to feed in a digitised photograph of a face and then add various features and Brucie simply tried out a few different designs on top of his pixelised head until he found the one that looked the most natural.

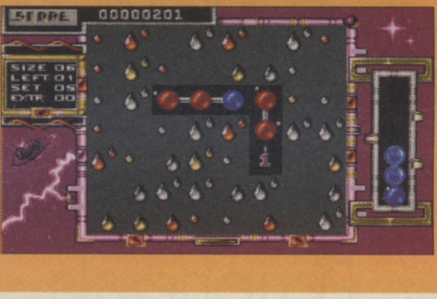
It's thought that the relatively primitive nature of the technology at that time is responsible for the atrocity which currently graces the star's otherwise shining pate.

ATOMINO

Psygnosis
ST and Amiga • £25.99

If you've been getting your molecules in a twist over this tricky electron-manoeuvring puzzler, fret no more, just try some of these passwords to the later levels.

10 - ACID
20 - ARROW
30 - EMISSION
40 - LAVA
50 - CAVE
60 - ELIXIR
70 - BONE
80 - WOOD
90 - FOUNTAIN
100 - GETWISE



• Those of you who like your molecules just the way they are won't care for this game at all. In fact, judging by the screenshot it looks like someone's already been getting upset.

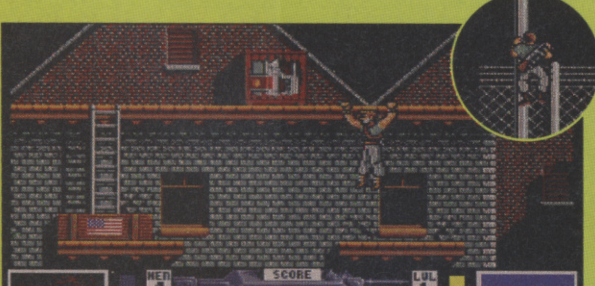
NAVY SEALS

Ocean • Amiga, ST • £25.99 ★ ★ ★

The Spectrum version of this movie licence game was released quite some time ago to considerable acclaim, and the C64 and Amstrad cartridge versions have also garnered some highly respectable reviews. 16-bit owners have been waiting a long time to see it, but it's finally out, and it's...average.

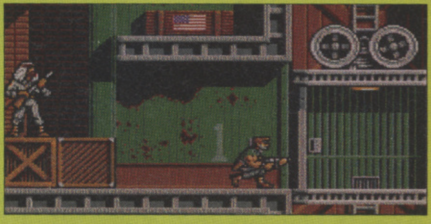
The game involves you taking the parts of a team of *Navy SEALS*, America's elite troops, in an attempt to destroy a large number of US Stinger missiles recently stolen by Arabic terrorists. Along the way, you should find time to release a captured helicopter crew, and zzzzzzzz... Sorry, dropped off for a moment there. Behind the hackneyed-to-the-point-of-absurdity plot, (for which we have to forgive Ocean as it's based on the execrable movie of the same name), *Navy SEALS* is a fairly standard platforms-and-ladders game, disturbingly similar in several ways to *Robocop 2* and *Total Recall*, Ocean's other recent movie licences. Your Seal (sorry, SEAL - stands for Sea, Air, Land, apparently) leaps athletically around, shooting the bad guys and planting time bombs on the crates containing the half-inched missiles, all against a very tight time limit. And, er, that's it. (copyright The Big Book Of Reviewer's Catchphrases, £25.53 from newsagents absolutely nowhere.)

You see, there isn't very much to *Navy SEALS at* all. The most remarkable thing about it is the dinky little bits of animation when your SEAL swings along underneath a platform, or leaps up to surprise a terrorist from below. In every other way – graphics, sound, design, presentation – the game is average at best. The strength of the game lies in its playability and difficulty, for this isn't a game you'll complete on day one, and the undemanding nature of the purely arcade skills involved make it easy to pick up for a quick zap when you can't be bothered thinking.



• Your macho hero seeks to evade certain death by hiding at the top of a streetlight in the Green Beret-like third level. It's not actually such a bad strategy, as from the top of the post you can leap straight on to the guard's head, avoiding his line of fire.

• A performing SEAL swings his way towards a crate containing a power-up. The stars-and-stripes crate contains one of the plundered rockets, so just walk your SEAL past it and he'll automatically deposit a timebomb on top of it, for a further incentive to finish the level on time.



• One important thing to notice is that the enemies in Navy SEALS don't actually shoot at our square-jawed Adonises until they see the whites of their highlights. Therefore, by simply ducking under the bad guy's line of vision, as in this picture, America's elite can completely avoid being-shot-at misery. Until they stand up, anyway.

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